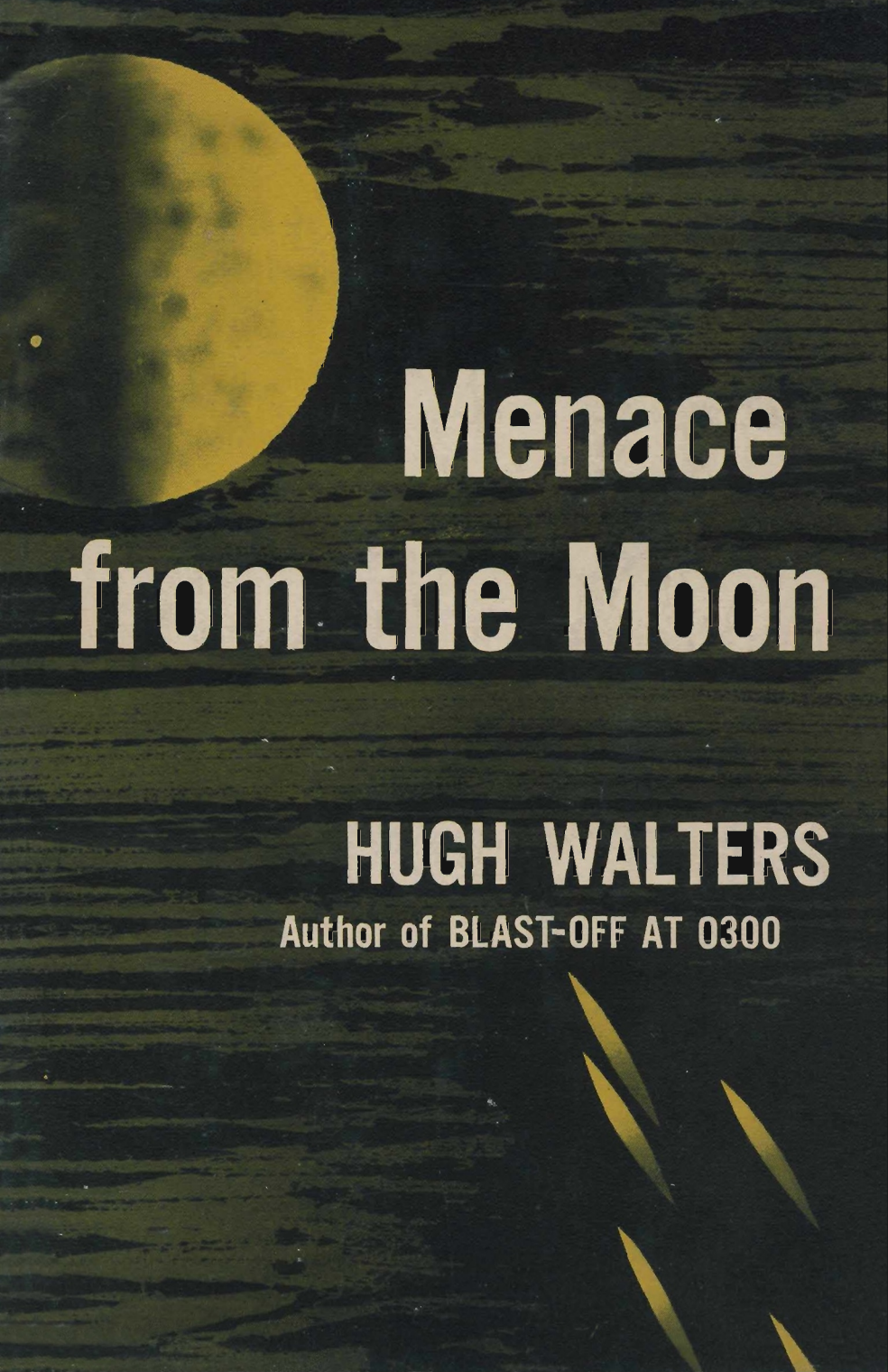
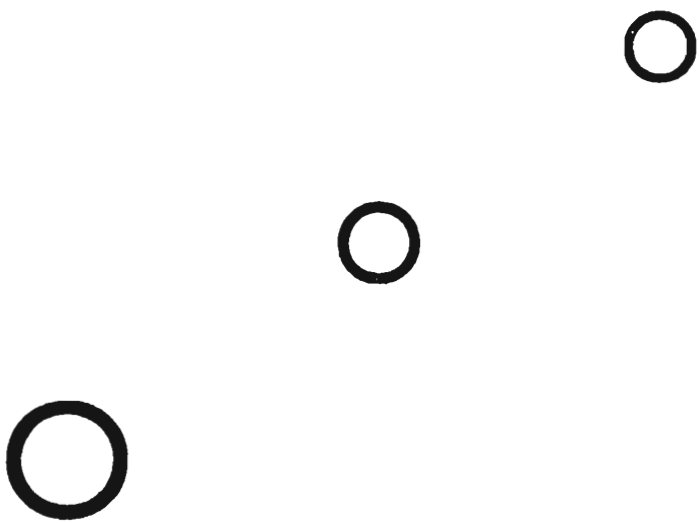

Menace
from the Moon
HUGH WALTERS
Author of BLAST-OFF AT 0300

A CRITERION BOOK
FOR YOUNG PEOPLE

Also by Hugh Walters : BLAST-OFF AT 0300

MENACE FROM THE MOON

MENACE FROM



THE MOON

BY HUGH WALTERS

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MENACE FROM THE MOON

1

IT WAS A SHOCKING DAY for July. The rain beat incessantly on the windows of the railway coach. The young man in the corner seat stared disconsolately through the glass at the dismal countryside and waterlogged fields. "What a prospect for the long vacation!" he thought.

There were only three people in the compartment: himself and two elderly ladies, each sitting hunched in a corner. Neither had spoken a word during the last forty minutes, thus maintaining the good old British tradition of stony silence during train journeys. The youth made several attempts to whip up interest in the paper-backed novel he had bought at the Paddington station bookstall. At last he gave up in disgust and threw the book with its lurid cover on the seat beside him.

One of the two ladies glanced idly at its bright colors and then snorted aloud when she saw that it depicted the fantastic landscape of some distant planet with a weirdly armored spaceman in the foreground. One could almost hear her think-

ing to herself: "What rubbish young people read nowadays! How much better if this young man occupied his thoughts with more serious literature!"

The lady would have been startled out of her silence if she had recognized the youth in the opposite corner. For this slight young man was the only human being who had ever crossed the threshold of space, who had been propelled in a rocket to a fantastic height and had returned with vital scientific information, almost losing his life in the process. He was Christopher Godfrey who, less than two years before, had captured the imagination of the whole world by his amazing and heroic ordeal.

Chris, unaware of the lady's disapproval, continued to gaze idly at the soggy landscape. He had just completed his first year at Cambridge and was on his way home to Norton where his widowed aunt, Mrs. Mary Ingall, kept a small shop. He planned to spend most of his vacation with her, studying at home. He intended also to see all his friends and to spend at least two weeks at the home of Wing Commander and Mrs. Greatrex.

As he thought of his old friend, the gallant Wing Commander, Chris called to mind that never-to-be-forgotten day in Australia, on the rocket range at Woomera. His life had been saved that day by a prompt and heroic action of the officer who had risked his own life and been seriously wounded by a traitor's bullet. Whiskers, as his friends dubbed the officer from his most prominent feature, had later married Sylvia Darke, the woman security officer who had been sent to protect Chris's aunt during the weeks Chris had been away on his dangerous assignment. Gosh, it would be good to see old Whiskers again!

The train was slowing down for Norton station. Chris stood up, stretching to reach his two bags from the rack overhead. Then he unfolded his raincoat and put it on. The rain was still coming down steadily; it looked as if he were in for a

soaking. With a jerk the train pulled up, and Chris stepped onto the almost empty station platform.

Almost empty—but not quite. A tall man, wearing a loose-fitting waterproof coat and a dark-brown hat, was looking expectantly up and down the train.

"Uncle George!" Chris yelled in delight. The tall man's face lighted up with a happy smile.

"Fancy your being here!" Chris called, as he dumped his two bags on the platform and seized the outstretched hands. "This is great! How are you, Uncle George?"

Sir George Benson, Director of the Rocket Research Establishment at Woomera, looked fondly at the youth. "Hello, Chris old chap. I'm fine. How are you? It seems ages since I saw you."

The scientist took one of the youth's bags and, an arm around his shoulders, walked along with him toward the exit.

"I've got the car here. It'll save you a soaking. I'll run you home," Sir George said as they reached the street.

"Did you really come to meet me?" Chris asked. "It's awfully good of you. How did you know which train I was coming on?"

"Your Aunt Mary told me. I'm staying with Mr. Berry for a few days, and I thought I'd better come along and see you."

"I should jolly well think so," said Chris.

They walked toward Sir George's car, put Chris's bags in the back, and climbed in together. Then the scientist drove smoothly away.

While Sir George concentrated on the traffic, Chris looked up at the strong, kindly face of his friend. The scientist was actually no relation to him. "Uncle" was the courtesy title adopted when, two years before, out of common danger fate had woven an unbreakable web between them.

"How's it going at Cambridge, Chris?" Benson asked.

"Oh, fine now, Uncle George," Christopher replied. "It was a bit grim the first term—I'd been out of action for so long.

The second one was better, and now I'm really enjoying it."

"Good! And how are you feeling, Chris? Fully recovered?"

"Oh, absolutely. Never felt better. I've been doing some rowing and soccer—even had a dabble at boxing," Chris said proudly.

He thought of how different his prospects had been when he attended the local high school and was so undersized for his age that he could not take part in any sports. Since his venture into space, where the atmosphere afforded no protection from the mysterious cosmic rays, he had for some unknown reason grown considerably. Now, though slight in build, he no longer felt different from the other boys, and it was a great joy to him to be able to make a good showing in sports.

Every now and then the scientist glanced at his young friend talking happily about college life. A close observer might have noticed that a strange look occasionally crept into Benson's eyes. But it passed as quickly as a small cloud crosses the sun as he asked Chris innumerable questions about his work and his life at the University.

In a very little time the car was stopping outside Mrs. Ingall's shop. Eagerly Chris jumped out of the car and in a few strides reached the shop door. It required quite an effort for him to restrain himself while the older man climbed out more sedately and joined him. Then he pushed open the door, setting the little bell jangling inside.

Mrs. Ingall was waiting to greet her nephew in the sitting room at the back of the shop. Chris flung up the flap of the counter and raced through. The scientist lingered discreetly to close the shop door.

There was a deep bond of affection between the youth and his aunt. Since the death of Chris's parents, Mrs. Ingall had been both father and mother to him. Yet until the events of a couple of years before, neither Chris nor his aunt had been accustomed to show their mutual affection. It was only under

the strain of his grim experience that their reserve had been broken down.

Chris embraced his Aunt Mary warmly. Breaking away from him with a confused little smile, Mrs. Ingall invited Sir George to step inside. "The kettle's boiling. I'll have tea ready in two minutes," she promised. As she bustled about, she regained her composure.

Chris brought in his bags. Then he and Sir George removed their coats and hung them in a small cloakroom. As Mrs. Ingall disappeared into the kitchen and Chris clattered upstairs with his bags, the scientist stared into the fire that was blazing away despite the date on the calendar. Again the strange look crept over Benson's face. If Chris had seen it, he would have rightly guessed that his friend was deeply troubled. But by the time Chris returned, Benson's face had cleared.

It was a jolly little tea party. Mrs. Ingall had provided her nephew's favorite cake, and he attacked it enthusiastically. He repeated to his aunt much of what he had told Sir George, and in return she regaled him with local gossip about their friends.

As Chris helped his aunt clear away the tea things, she asked him whether Sir George would think it rude if she slipped away for a while to visit a sick friend. Chris assured her that it would be quite all right, and that he and Uncle George would find much to talk about while she was gone.

2

AFTER MRS. INGALL, with apologies to Sir George, had left, it was Chris's turn to question Sir George. Eagerly he asked how things were progressing at Woomera. Of course he expected only general replies, for he knew the limitations that security clamped down on a full discussion of rocket progress. For a time the answers of the Director of Research were as full as could be expected. Then gradually Chris became aware that something was wrong. Sir George seemed to be laboring under a growing strain: his answers became more disjointed, and it was plain that he was deeply troubled. A slight film of perspiration showed on his forehead, though the room was by no means hot.

Chris became more and more puzzled as the conversation slowed down and then came to a complete stop. There was an awkward silence in the room. Then, like a swimmer about to take a plunge into icy water, Sir George Benson took a deep breath, looked squarely at Chris, and spoke.

"I—I asked your aunt to leave us alone for a time, Chris,

because I wanted to have a talk with you. What I want to say is very important, so I'd better start at the beginning. You don't mind?"

"No, of course not." Chris began to have a premonition of what was coming. His heart beat a little faster, whether from excitement or the beginning of fear he couldn't tell. He remembered vividly the scene in the headmaster's study two years before, when Sir George had asked him to go up in a rocket. The scientist had been keyed up then, just as he was now. It seemed as if Sir George were again steeling himself to ask him to undertake another hazardous adventure. But no, it couldn't happen to anyone twice. Or could it?

Sir George Benson was looking at him intently, and Chris could feel that he was choosing his words with care. He would soon know what was on the scientist's mind.

"Well, Chris, you remember what all the trouble was about when you went up two years ago? Those mysterious domes that had appeared on the surface of the moon near the little mountain called Pico?"

Chris nodded his head without speaking. Would he ever forget those small rounded structures that had been the reason for his trip in the rocket—a journey that had carried him beyond the atmosphere to the fantastic height of a hundred and fifty-eight miles? It had been his task to direct a camera-telescope, unhampered by any air, onto the area of the moon where the domes had appeared.

"You did a great job, Chris," Sir George was saying, "and we got some wonderful photographs. The spectrographs were a great help, too. As you know, we discovered that the domes were too regular in size and shape to be of natural origin. And the spectroanalysis showed that they were of an element unknown elsewhere on the moon—or on the earth, either. Well, you know the sensation that caused. And you know that since then all the civilized nations have united to keep the domes

under constant observation to discover their origin and purpose."

"And what has been discovered?" Chris asked eagerly.

"Nothing," Benson answered dully. "Precisely nothing."

"But it's been two years!" Chris exclaimed.

"I know. And everything possible has been tried. A lot of unmanned rockets have been launched with the most elaborate equipment, but you know the difficulty of directing instruments toward any precise spot without human aid. The artificial satellites—both Russian and American—have been used to the fullest possible extent. All to no purpose. Except for the appearance of a few more domes shortly after your flight, no data have been discovered that were not obtained then. The situation remained static until a fortnight ago—static, except for something that occurred last April."

"What happened then?" Chris inquired with deept interest.

"As I said, the domes have been under constant visual observation whenever conditions have permitted. Thousands and thousands of photographs have been taken and compared with the ones you took two years ago. No change whatever was observed in the size or appearance of the domes—until the night of April twenty-eighth."

Sir George paused for a moment. Chris waited breathlessly for him to go on.

"When the photographs taken during that night were examined, it was thought at first that again there was no observable change. Then a keen-eyed young assistant noticed something strange about three miles southeast of the dome cluster. There, in the center of a shallow craterlet, a conical structure had appeared. April twenty-eighth was sunrise in the Pico area, and these exposures were the first taken since the previous sunset. When the prints from the previous lunar day were compared, there was no doubt about the change. From the long shadow cast by the rising sun it was calculated that the cone was about four hundred and fifty feet high and some

two hundred feet in diameter at its base. Like the domes, it had been constructed when the moon was free from observation from the earth."

"What happened then?" Christopher had been following the scientist's words closely. He could well remember gazing at the domes during his flight above the atmosphere. In the absolute clarity of empty space the strange unnatural shapes had appeared through the telescope to be squatting in a sinister way in the midst of the wild lunar scene.

"Of course it caused a commotion among the astronomers who had gradually been coming to accept the domes as part of the everyday scene," Benson was saying. "The cone became the central object in a concentrated program of observation. It still is."

"Were there any results?" Chris asked.

"Very few. The cone seems to be made of the same substance as the domes, but its purpose, like theirs, couldn't be discovered—that is, until two weeks ago."

There was a long pause as both Chris and the scientist thought of what had taken place two weeks earlier.

In the fall of 1956, Calder Hall, the world's first plant for generating electricity from atomic energy, had been officially opened by the Queen. As the giant meter, especially erected to show the production of electricity, began its steady march around its large white dial, a new age had been born.

Now, not so many years later, more than half of Britain's power was generated by huge new atomic-energy stations scattered over the country. It was expected that in a few years more almost all British electricity would come from this source.

In the years since that memorable October day sections of plants had occasionally been closed because of overheating but now—two weeks before Chris's and Sir George's conservation—for the first time in its existence Calder Hall had mis-

behaved—misbehaved badly. In fact, this Number One station had suddenly become so critical that it had to be completely closed down.

Within minutes, two other plants had gone critical and had also to be shut down. After years without one production shutdown at even one major atomic-energy station, now in the space of minutes three of them in widely separated areas were out of action. This was catastrophe! There was no explanation. The station superintendents were as bewildered as their chief.

Shortly two more stations went out and, within an hour, half the others. The Emergency Plan was put into operation, and all top scientists and officials connected with the atomic-energy project were called into conference.

Britain had faced many crises in its long history, but disaster had never struck with such crippling suddenness. In those agonizing first hours, when it was realized that all the country's nuclear-power stations had for some mysterious reason been compelled to close down almost simultaneously, it seemed that the blow could easily prove fatal. But large-scale readjustments of national life were made in the course of a very few hours. Broadcasts by radio and television were used to inform and reassure the public which, though bewildered, responded magnificently.

Soon it became known that all over the world the story was the same. Nuclear reactors in America, Russia, India, and countless other countries had been forced to close. Everywhere the effect was serious, but nowhere was it so devastating as in Britain. In this country the new source of energy had been developed more rapidly than in any other and, because of the ever-rising cost of coal, had been relied on more and more. So it was Britain that was the most seriously affected by the shutdown. For Britain it was vital to discover the cause and eliminate it without delay.

While the British Government mobilized the nation's best

brains to grapple with the crisis, in the daily press various guesses were hazarded about the cause of the power failure. Some of them were serious, some wildly improbable. Eventually world opinion seemed to center around the idea that the catastrophe was due to some unknown property of the uranium that formed the core of almost every reactor. Within a week the experts summoned by the Government had found the true cause but, in the interests of tranquillity, the authorities allowed the generally accepted uranium theory to take the blame. Only its top men knew that the true cause was a different one—staggeringly different.

Chris was the first to break the long silence. "You mean," he asked incredulously, "that the failure of the atomic-energy stations is in some way connected with that cone on the moon?"

"Yes, Chris, I do."

"But I thought it was due to something wrong with the uranium."

"That's what the newspapers say, and to avoid undue alarm we've let the general public believe it. But I'm afraid it's much more serious than that." Sir George paused, then said slowly, "We know now, without any possibility of doubt, that the breakdown of the nuclear stations was caused by radiation from that sinister cone on the moon."

"I—I don't understand."

"I'll explain it as simply as I can. As you know, the basic principle of an atomic reactor is, that neutrons of the uranium atoms are shooting about and some of them collide with the nuclei of other atoms and split them up, thus producing more neutrons and releasing energy which is converted into heat and finally into electric power. Many of these high-speed neutrons escape without making a collision, or they are absorbed in the apparatus. Now if the size of the uranium core were increased, the proportion of neutron collisions would

also increase and far more energy would be released than could be controlled. In other words, an atomic explosion would take place.

"So one of the greatest problems in nuclear engineering is to maintain a sufficient number of neutron collisions to sustain the reaction and avoid too many, which would cause a catastrophe. If the atomic pile is producing too many neutron collisions, it becomes critical, and steps have to be instantly taken to reduce them."

"How is this done?" Chris asked, deeply interested.

"Graphite absorbs these high-speed neutrons, and if for any reason a reactor becomes critical, automatic apparatus inserts graphite rods into what we call the critical mass of the reactor core until the right balance has been restored. Until now, this procedure has always worked."

"Then what has happened?"

"Without warning, and almost simultaneously, all our reactors became critical. For some reason, which we couldn't then understand, neutron collisions increased greatly, so much that they all had to be completely dampened down. The result was that the stations were unable to function, and we were deprived of all our atomic power."

"But the cause?" Chris persisted.

"At first we couldn't understand why there was suddenly a great increase in the collisions," the scientist told him. "There was absolutely no reason why all the reactors should have begun to produce so many active neutrons, for over the world they vary greatly in size, design, and age. We were forced to the conclusion that some outside agency was at work. Without wearying you with details of how it was done, I can tell you that we made the discovery that the earth was being bombarded with an intense stream of neutrons, all originating in that strange cone on the moon. It's incredible, but it's true."

Chris whistled. Then he was silent as he absorbed this staggering piece of information. It was almost unbelievable. So

whoever or whatever had constructed the cone and the domes was responsible for this silent, relentless attack on the human race. But why? Why?

Once more Christopher felt that sinking feeling of vague fear beginning to creep over him. Why was Sir George telling him all this when it was top secret? Surely they weren't going to—no, it couldn't be. They would never ask him to go up in a rocket again. Yet Uncle George had deliberately sought this opportunity to talk to him alone on this, the first day of his long vacation. A hot resentment welled up inside the youth.

The keen eyes of the tall scientist registered the youth's every expression and, as surely as if Chris had spoken aloud, Benson guessed his thoughts. His heart sank as he imagined what his young companion was thinking about him. Chris had come to mean a great deal to him. How tragic that duty now compelled him to risk that affection!

"Chris, lad"—Sir George almost stammered in his distress and emotion—"I can guess what's in your mind. But it's my duty—I've been requested to do it—to ask if you'd consider another rocket flight."

3

ALMOST AT THAT instant, many miles away, a huge shining airplane came to a halt at London airport, and uniformed attendants placed the aluminum landing steps in position against its side. As the door opened, a member of the crew with a sheaf of papers under his arm ran lightly down the steps. A small group of officials, making their way across the asphalt, waited in a tight little knot until a short, stout man stepped from the plane. Then the officials came forward in turn and shook hands with him. For this was Mr. Hilary Sandford, Her Majesty's Minister of Defense. There was the usual click of cameras from the photographers who always seemed to be present when anyone important arrived. Then the little party, with Mr. Sandford in the lead, made its way to the special lounge where the Minister was to face a battery of film and television cameras while he answered questions from the press.

Because Mrs. Sandford suffered from arthritis and was unable to walk without the help of a cane, she had not gone out with the officials to meet her husband. She was waiting to greet

him just inside the building. The Minister gave his wife a warm, affectionate greeting and, with her leaning heavily on his arm, made his way to face the coming ordeal.

Mrs. Sandford was shocked at her husband's appearance. Beneath the determined smile, which he wore with the facility of an experienced politician, she could detect the signs of great strain. He seemed to her to have aged ten years instead of ten days during his visit to the United States. Never before had he seemed so utterly weary in body and spirit as now. Yet she could not help admiring his skill, his courage, and his patience during the next twenty minutes.

First the Minister read a short prepared statement outlining the objects and results of his visit. His talks, he said, with the American Secretary of Defense, with the President, and with other American officials, had been most cordial. He would first be reporting to the Prime Minister and the Cabinet, then he would make a full statement in the House. But he could say that as a result of the improved relations between East and West, a further cut in the cost of Western defense was deemed practical. Both Britain and the United States, however, had resolved to maintain the momentum of research that had been built up as such great cost during the years of tension. It had been decided, for example, to go on with rocket research, though shifting the emphasis from the perfection of an intercontinental ballistic missile to the exploration of space and an all-out investigation into the nature of cosmic radiation. Much of the information that had come from the Russian Sputniks and American satellites during the International Geophysical Year had been of the utmost importance. But there was still a great deal to learn, and the Soviet Union would be invited to join in drawing up a common plan.

When he had finished his statement, Mr. Sandford answered or parried the inevitable questions with practiced ease. At last the interview was over, and he and his wife were escorted to the official car which was to drive to Downing Street. As

they moved off, the Minister sank back wearily into the soft seat. His wife looked at his lined face with growing concern. Her hand sought his, and its gentle pressure caused Sandford to turn toward her with the ghost of a smile.

"Gosh, Alice, it's good to be back," he murmured. The strength seemed to have gone from his voice, now that he was alone with the one person in the world whom he never tried to deceive.

"Had a bad time, Hil?" his wife asked gently.

For a moment the politician closed his eyes. Then he looked at his gentle gray-haired wife. "Ghastly," he replied.

Mrs. Sandford was puzzled. Her husband had many times before been away on important international conferences. Often, between his Ministry and the House, he had worked long hours, and had fought eight strenuous elections. Yet never before had she seen him so utterly weary and dejected in spirit. She must strike while the iron was hot. Once more she would implore him to resign while he still had any health left.

" How much longer can you carry on, Hil?" she asked gently. Sandford didn't fly off the handle as he usually did when his wife started on this subject. Instead, a deep sigh came from his broad chest and he said slowly, "I'm going to get out of politics just as soon as this job is over, Alice. I think, after all, raising chickens is more my line."

Mrs. Sandford could hardly believe her ears. Things must have gone badly for him to be so dispirited. Did he really mean to retire? Or would he think better of it after a night's sleep?

Now the car had turned into London's most famous street, and the Minister of Defense was marshaling his features into the calm, confident mold the public was used to. Twenty-five years in politics—over a score of them in the House and the last three as a minister—had taught Hilary Sandford the value of a well-disciplined face. The little knot of idlers that

always seemed to be standing about on Downing Street began to applaud politely as the chauffeur opened the door of the car. Mr. Sandford stepped out in front of Number Ten and as the car drove away, taking his wife to their home in Kent, paused on the steps for a moment at the request of the inevitable photographer. Then he turned and walked quickly inside the open door of the Prime Minister's residence.

William Beaumont, Prime Minister of Britain for over six years, was able and intelligent. As a politician he was moderate and conciliatory and had almost as many friends in the Opposition as in his own party. He was waiting for his colleague in a small drawing room. A private secretary led the Minister of Defense into his chief's presence.

The two men shook hands cordially. They had known each other for many years, and when alone addressed each other by their Christian names. Now, in the presence of the secretary, they were formal. Beaumont inquired about Sandford's journey, then soon dismissed the secretary. As soon as he had left, the Prime Minister turned an anxious face toward his colleague.

"How is it, Hil? How have they taken it? As bad as we thought?"

Sandford nodded his head.

"Worse, Bill. Much worse. What we're going to do, I just don't know. There are all sorts of wild proposals, of course, but I think they are really looking to us for a lead. So is the Soviet Ambassador. He sat in at all our meetings."

"Did you manage all right at the airport?" the P.M. asked.

"Easily," the Minister of Defense answered with a wan smile. "I read a prepared statement along the lines we'd agreed on, and it seemed to satisfy them. The questions were harmless, and my answers will cover us for any unusual activity in the near future. But, Bill, not the slightest whisper of what's really causing this atomic disaster must get out."

"I think I can promise you that, Hilary," the Prime Minister

answered quietly. "Only six members of the Cabinet—four others besides ourselves—together with the three service chiefs and their scientific advisers know the real reason for your visit to the States. So now let's have it, Hil. What do they think over there?"

The two men were seated opposite each other in a couple of easy chairs. Yet instead of settling down comfortably with their pipes as they had done so many times before, they now sat uneasily, with pale, strained faces. There was quite a pause before the Minister of Defense found words to refer to the menace that threatened the earth.

"To the Americans and Russians with their ample supplies of easily mined coal, the availability of atomic energy is not so important as it is to us, of course. Yet they're just as perturbed as we about this neutron bombardment. They are really worried about the reason for it and who is responsible. 'Is this the prelude to some greater menace?' is the question the Americans are asking. They're inclined to think that it is. And Russia agrees."

Slight beads of perspiration stood out on the Prime Minister's forehead. Suddenly, "Tell me, Hil," he asked. "Did they accept our proposal?"

"Not at once, but after a time they accepted it without reservation. The President was the hardest to convince, but when he saw that the others took it seriously, he did too. Mr. Malensky was in constant touch with Moscow, and they, too, are with us all the way."

"You must have had a bad time putting it over. What did you say to them?"

"You know I'm not a scientific chap," Sandford began, "but I've done a deal of studying these last few weeks. Oh, I know we have our advisers to explain matters to us in words of one syllable, but I prefer to get the hang of things myself. I think it paid dividends in talking to the Americans.

"The President and his colleagues are as keen as we are to

learn more about this radiation. They believe that in time it will have other effects on the human race, perhaps even more serious than the elimination of its most promising source of power. Some of their men have done a great deal of work on radiation generally, and they're inclined to the opinion that the nuclear blackout is only a first result of this bombardment. The Russians were even more concerned. They know the effect cosmic radiation had on the animals they sent up in their satellites."

The Prime Minister was following Sandford's words closely. Though Hilary Sandford was not, as he had said, a man with scientific training, he had always had the ability to express himself clearly and logically. This ability was one reason why he had been chosen for this vital and delicate mission.

"Had they any explanation to offer?" the Prime Minister asked.

"No, they were completely puzzled. Naturally they had conceded the artificial nature of the domes after the rocket investigation two years ago. Since then they've thought up all sorts of explanations for why or how they were made.

"I was asked point blank what our theory was. And I had to say that we haven't one. All we know is that those domes are a menace—the most immediate and most deadly menace that mankind has ever had to face. And that we've got to destroy it. Somehow."

"And they agreed?"

"They agreed."

There was a knock on the door, and at Beaumont's "Come in," the private secretary entered. He murmured something to the Prime Minister, and then withdrew.

"The others are waiting," the P.M. said to his colleague.

"Shall we join them?"

Sandford stood up wearily and followed his leader through the door into the Cabinet room. About a dozen men turned anxiously toward them as they entered. They murmured their

greetings to the two men. Soon they were all seated around the famous table, Beaumont at the head with Sandford on his right. Then Beaumont invited the Minister of Defense to give his report. Sandford repeated what he had told the Prime Minister. The company listened in almost complete silence. Some of the men occasionally nodded their approval of Sandford's conduct of his mission. All were keyed up to learn whether the Americans and Russians would cooperate in any action thought advisable.

"Both the President and his colleagues pledges one hundred per cent cooperation, and Moscow did the same," Sandford declared. "They are prepared to throw in the whole of their resources, but they made it a condition that the strictest security measures must be observed. I think they fear public reaction even more than we do."

There was a pause while each of the men seated in the historic British Cabinet room turned over in his mind the report presented by the Minister of Defense. It was the Prime Minister who spoke first.

"I am sure we all congratulate Sandford on the successful outcome of a very delicate mission. If anything is to be achieved, then we are all agreed that America, Russia, and Britain must work in the closest possible harmony. Machinery must be set up instantly to accomplish this. As you all know, we have our own plans, but these can be carried out much more speedily and with greater certainty of success with American-Soviet partnership. Frayling, will you run over the plan we have worked out while Sandford has been in the States?"

The man to whom the Prime Minister had spoken was a scientist. But to say only this would not be enough. In addition to having one of the finest brains in the country, Sir Leo Frayling was a dynamic personality. Beaumont had relied largely on him to direct and coordinate the work of the small, very secret committee he had set up. Sir Leo glanced at some notes he held and began to speak in his clear, precise voice.

"We have in fact been working on two plans, sir," he said. "One was for use if we had to work alone. The other one was based on Russian and American cooperation. Now that the Minister of Defense has secured that, I think we may ignore the first plan.

"Briefly, gentlemen, we have no alternative but to destroy the cone and, if possible, the domes too. If we fail to do this, in the course of a few years—or sooner—all civilized progress will become impossible. Speed is therefore of paramount importance in our plan. Now that we can count on the resources of three great countries, our task will be simplified. We must attack the lunar structures with atomic war heads. In no other way can we hope to eliminate the source of this crippling radiation. With American rockets and Russian war heads, together with our guidance system, the job can be done."

"There is, of course, one very great obstacle to overcome," Beaumont said, turning to his Minister of Defense. "Perhaps you'll explain what it is, Frayling."

"I'd prefer to have Johnson take up that point," the scientist answered. "He's the electronics expert."

All eyes turned to the small, pale-featured man who was fingering the lapel of his jacket nervously.

"Er—well, the difficulty is in directing the rocket vehicles with a sufficient degree of accuracy," Johnson said, almost apologetically. "As you know, both the U. S. S. R. and America succeeded in putting a marker rocket on the moon some time ago. Now, however, we have to pinpoint one particular bit of it.

"To approach anywhere near the target area we must be able to launch the first-stage rocket in the required direction within a limit of plus or minus less than one-third of a degree. Also the launching speed must be correct within one hundred feet per second. Both these requirements are about twenty times more accurate than anyone, at the present stage of development, can yet achieve. Some other means must be found,

therefore, for directing the war head correctly to the target area."

Hilary Sandford nodded. He was extremely tired, but by a great effort of will he was closely following Johnson's exposition. The small man went on.

"Our difficulties would be overcome if we could place a Levy beacon in the target area. This apparatus radiates impulses that can be used to guide the rocket toward it. Once a Levy beacon was in position, any number of rockets could be launched. They would pick up the impulses when within about ten thousand miles of the moon and would then be automatically directed toward the beacon. This would continue to operate for about seven days, or until the beacon received a hit or near hit from the rockets. We reckon that one beacon would be sufficient to guarantee delivery of enough war heads to wipe out the cone and the domes completely."

"But how will you get the beacon there?" asked Mr. Sidney Furnival, Minister of Fuel and Power. "You'll have just the same difficulty placing it where you want it as you would in getting the war heads there."

There was an awkward silence after Furnival had posed the critical question. Then the Prime Minister replied, "You're quite right of course. There's only one possible way it can be done and we must try it."

"How?"

Beaumont spoke with firmness. "We must send up a human being in a rocket, charged with the task of delivering the Levy beacon as near as possible to the cone."

Furnival gasped. "But it's impossible. We haven't got anywhere near that far. We haven't even managed a manned satellite yet."

"I know. I know," Beaumont replied. "Yet the stakes are so great that we must make the gamble. I'm told that technically it will be possible to use present American rocket engines for the lower stages of a piloted lunar rocket. Now that they are

all in with us, it won't take too long to complete such a rocket."

"But who on earth will you get to be the pilot?" Sandford asked in bewilderment.

Again there was a noticeable silence before the P.M. spoke. Each of the men seemed uneasy, and the Minister of Defense noted several of them glancing at one another self-consciously.

Then the British Prime Minister spoke in a strained voice, "There is only one person in existence who has had experience of true rocket travel. We're hoping that he can be persuaded to go."

"You don't mean that boy who went up at Woomera a couple of years ago and was nearly killed?" Sandford asked incredulously.

"Yes. Christopher Godfrey."

"But this is monstrous," Sandford protested excitedly. "Don't you think the boy did enough then? That he survived that crash is a miracle—and now to ask him to go through all that horrible experience again? I—I don't understand."

"We know how you feel, my dear Sandford," Beaumont said. Everyone in this room had exactly the same reactions when the boy's name was first suggested. But the arguments in favor of using him again are so overwhelming that we've had to swallow our scruples in the wider interest of humanity as a whole. Perhaps, Frayling, you'll go over the points that have forced us into this position."

"Willingly, sir. The facts are painfully clear," the scientist began. "Speed, of course is of the utmost importance. Every day, every minute, is precious. This young man is the only person who has had previous experience of rocket flight. He would, naturally, have to undergo a refresher course, but this could be shorter by weeks than the training of a completely raw recruit. Moreover, he has the great psychological advantage of having done something very similar before. He would have no fear of the high 'g' at take-off or of the weightless condition of free fall. Already he has proved himself resourceful

and highly intelligent. If he can be persuaded to go, he can be quickly trained, and the world will be delivered from this frightening scourge so much the sooner."

As he listened to Sir Leo's arguments, Sandford had to admit their force. After all, someone had to do the job, and, though he had been through so much before, if this youth would agree and if he succeeded, he would certainly confer an immeasurable blessing on the whole human race. With a sigh the Minister conceded the wisdom of his colleagues.

"But suppose he won't go?" he ventured.

"I think he will," Beaumont said with conviction. "He's being approached about it today by Sir George Benson. There are the strongest possible ties of affection between them. I have little doubt that Benson will persuade Godfrey to agree."

"When will you know?"

"I've asked Benson to telephone here as soon as he has succeeded," the Prime Minister replied. "Then we shall get moving very quickly along the lines we have already worked out. Now I think we'll terminate this meeting. I'll be standing by for Benson's call. You go home, Sandford, and get some rest. We can meet in the morning to consider your statement to the House."

As he spoke, the Prime Minister and the others followed suit. All knew exactly what they must do to put this tremendous plan into operation—a plan that depended on the decision of one boy; a plan that, if successfully carried out, would save mankind.

Sir Leo Frayling, walking toward the door of the Cabinet room, found one of his fellow scientists at his side. As the two men passed through, his companion pulled Sir Leo back.

"If he goes, what chance has young Godfrey of getting back alive?" he asked in a quiet voice.

Sir Leo looked his colleague squarely in the face. "Very little," he answered in the same low tone.

4

THE DIRECTOR OF rocket research was perspiring visibly as he put the critical question to his young friend. "Will you go, Chris?"

Chris Godfrey looked at Sir George Benson sharply. His mouth felt quite dry. Often in the past he had relived the vivid moments of his former flight. Often he had remembered the shattering horror of his helpless fall in the crashing rocket, and he had thanked God that the nightmare was behind him forever. Yet here was the man he admired above everyone and for whom he had the warmest affection, asking him to undertake an even more dangerous trip. But why? Why?

Sir George was watching his young friend anxiously. He knew what courage this youngster had. He also knew it wasn't fair to ask him to risk his life a second time. Yet his instructions had been explicit and imperative. So important was it to persuade Chris to undertake this venture that Sir George had been instructed to telephone to Downing Street as soon as the youth had consented.

"Why are you asking me?" Chris demanded.

Benson sighed. How he hated this job he'd been ordered to do, even though he knew its importance! Would Chris appreciate his position?

"There are very good reasons why I'm asking you, Chris," he explained awkwardly. "This flight is regarded as a matter of great urgency. We must get a closer look at the cone. You've had the experience. You can be prepared for the flight more quickly than anyone else. Besides, things are very different now. With world cooperation there's no chance of sabotage any more. Great progress has been made in all branches of rocketry, so I believe that today there'll be less risk in a flight around the moon and back than there was on your trip two years ago."

"Would you agree if you were I?" Chris asked pointedly.

"Frankly, I don't know. In fact, I'll tell you truthfully, Chris, if you won't go I doubt whether we'll find anyone else very easily."

"Uncle George, will you tell me honestly if this flight is really of great importance?"

"Chris, it's so important that if I can persuade you to agree, do you know whom I've got to ring up?" Benson asked seriously.

"No."

"The Prime Minister."

"Gosh!" Chris exclaimed. Then he was silent. The scientist watched him intently. Would this young man's interest in scientific research, his enthusiasm for space travel, his spirit of adventure, and his sense of duty to society outweigh his reluctance to face again the perils of the unknown?

"Chris, I give you my word that there won't be anywhere nearly so much risk as before, and also that the need for this flight is much greater than for your other one," Sir George said earnestly. "The Prime Minister wouldn't be waiting for your answer at this moment if it weren't so. . . . Well, Chris?"

Christopher Godfrey knew what his answer must be. The memory of his last adventure, and the panic he felt every time he thought of it, must be cast to one side. It must be a very important job if the Prime Minister himself was concerned. And Uncle George had given his word that the danger wouldn't be so great this time. As he made his decision, Chris's brow cleared. It was going to be a different vacation from the one he had planned, he thought wryly.

"All right, Uncle George," he heard himself saying. "I'll go."

The scientist closed his eyes for a brief second. Inwardly, he was in a tumult of conflicting emotions. Outwardly, he was calm as he reached forward and clasped his young friend's hand.

"I didn't really doubt it, Chris," he said, but there was relief in his voice. "I'll let the P.M. know right away. Is there a telephone I may use?"

"Yes. There it is in the corner."

Sir George dialed the exchange. Pulling a slip of paper from his pocket, he read a number from it to the operator. There must have been something magical about the number, for within seconds Benson was respectfully speaking to someone at the other end.

"This is Benson, sir," Chris heard the scientist say. "Godfrey has just agreed to do what we asked. Yes, certainly, sir. I'll tell him. No, his aunt is not here at the moment. Yes, I'll take him along tomorrow. Very good, sir. Thank you. Good-by."

Sir George placed the receiver back on its rest. Then he turned to the youth. The Prime Minister has asked me to convey to you the most grateful thanks of the British Government," he said.

Chris blushed furiously. "I hope there isn't going to be any fuss over it," he protested.

"No. It's to be kept secret, so you know what that means."

"Does Aunt Mary know?" the youth asked.

"I've told her I was going to ask you, and she—oh, that sounds like her at the door now. You can talk to her about it," Benson said.

As Mrs. Ingall came into the room, she glanced anxiously from her nephew to Sir George. When she had put her hat and coat away, she turned tremulously to Chris.

"Sir George has asked you? You're going?" she asked.

"Yes, Aunt Mary. I'm going. He's told me it's even more important than the last time, and he says there's much less danger." Chris turned to the scientist for confirmation.

"That's correct, Mrs. Ingall. I don't think your nephew will be taking anywhere nearly the same risk that he took two years ago. We've learned a lot since then. You'll agree to his going?"

Chris's aunt twisted her fingers nervously. She knew that if her nephew had made up his mind there was little use to trying to dissuade him. Besides, she had infinite faith in Sir George Benson, for she knew of his affection for Chris.

"I—I suppose so," she said with a worried little smile. "How long will he be away, and when will he have to go?"

"We'd like him to go tomorrow, Mrs. Ingall, if he can manage it. I think you can depend on his being back before the end of his vacation."

"I'll have to let Whiskers and Mrs. Greatrex know," Chris said. "I was going to stay with them part of this summer."

"That's all right, Chris," the scientist smiled. "It's been arranged that, if you agreed, old Whiskers should be your guide, philosopher, and friend again." He turned to Mrs. Ingall. "I wonder if you could accommodate Mrs. Greatrex for a few weeks?"

Mrs. Ingall's face brightened. "Sylvia? Why, of course she can come and stay. We can keep each other company while you're all away playing with your fireworks," she said with an attempt at a smile.

"I believe Mrs. Greatrex is having a baby around Christmastime," Sir George informed them.

"She is? I thought she sounded a bit mysterious in her last letter." Mrs. Ingall smiled happily. "When will she come?"

"Oh, in two or three days. I'll let her know you'll expect her."

"I wonder how Whiskers will get on as a father." Christopher grinned. He was in high spirits now and in one way beginning to look forward to this new adventure. It would be good to be with old Whiskers again.

After asking Chris to be ready at nine o'clock next morning, Sir George Benson took his leave. As his car moved off, Mrs. Ingall turned anxiously to her nephew.

"You will be all right this time, won't you, Chris?" she asked with a tremulous little smile.

"Of course I will," the boy answered stoutly. "You heard what Uncle George said."

"Well, I suppose we'd better think about repacking your bags."

"I suppose so," Chris laughed. "By the way, Aunt Mary, Uncle George made a telephone call while you were out. Guess who to?"

Mrs. Ingall shook her head.

"To the Prime Minister!" Chris announced.

"No! He really didn't speak to him? From here?" Mrs. Ingall whispered. She looked at the telephone almost with reverence.

"Look, Aunt. Let's have an evening out tonight. We won't have another chance for a few weeks, so couldn't we go to the cinema together?"

"Well, there's your packing to do. Still, I don't suppose we'll be late. All right, just give me ten minutes and I'll be ready. Where shall we go?

Sir George Benson was a little late picking Chris up next day. "The chap with the keys to the gas pump hadn't turned up this morning," he explained. Chris bade his aunt a gay

farewell, perhaps a little gayer than he actually felt. She stood at the door and watched with mixed feelings as they drove away. Then she turned back into her shop, determined to resist depressing thoughts. Hadn't Sir George assured her that the boy would be all right?

The car sped along in the warm sunshine, for yesterday's rain had vanished in the night to be followed by a blue-and-white summer sky. Chris chatted freely with the scientist. They talked of Sir George's Deputy at the Woomera Rocket Research Establishment. Two years before Chris had stayed with Mr. Gillanders' family there, and Betty, the daughter, had written to him at intervals, so that he was fairly well up on news of them.

They had been on the road for more than an hour when it occurred to Chris that he had no idea of their destination. He asked Sir George about it.

"We're picking up old Whiskers first. Then we're off to Farnborough. You'll have to go through a lot of the same drill you did last time. First of all, of course, you'll have to have a stiff medical. As you know, you must be very fit for this job, and we'll have to check to see that you have fully recovered from those injuries. Then there's the little matter of the G-suit—you've grown a bit since the last one. And then there will be a course on the centrifuge."

"Where will the rocket be fired from? Woomera?"

"I don't know," Benson admitted. "There have been high-level consultations with the Americans and Russians these last few days, and much depends on them. It may be Woomera, or it may be from the American rocket station in Florida. It might even be from somewhere in Russia. We'll know in the next day or two."

"Uncle George, have you any idea what date the launching will be?"

"Chris, there's something I must tell you," the scientist said quietly, his eyes fixed on the road ahead. "I am not in

charge of this operation. The man responsible is Sir Leo Frayling. You'll be meeting him shortly. Oh, I haven't lost my job or anything like that. It's just that so much is involved in this project that the Cabinet has appointed Frayling to have over-all charge. I'm still responsible for the rocket side of it—that is, unless other parties aren't agreeable."

Chris looked at his companion uneasily. "Uncle George," he said. "If you're not going to be in charge, I'm dropping out."

"Don't say that, Chris. I appreciate your feeling and I'm grateful. But I'm not being demoted or anything of the kind. It's just that Frayling has over-all responsibility to the Cabinet for all the many agencies concerned—including, of course, ours at Woomera."

"I see," Chris said a little dubiously. "Well, if you say it's all right, that's good enough for me."

"Thanks, Chris."

Benson took his eyes off the road for a second to smile warmly at his young friend.

For the next few minutes they drove along in silence. "We're nearly there," Benson said at last. "Hope old Whiskers is ready."

In less than a minute the car pulled up at a neat half-timbered house with a wonderful garden. Watching from over the low stone wall was an attractive young woman, formerly Flight Officer Sylvia Darke of the Security Branch of the R.A.F., now Mrs. Greatrex.

"They're here," she called to her husband who was still inside the house. There was a shout of greeting, and in a moment Chris saw his old friend take the wall in a flying leap. His perspiring red face with its huge ginger mustache grinned delightedly at the youth stepping out of the car.

"Well, well, young feller-me-lad, it's good to see you!" Wing Commander Greatrex shook Chris's hand vigorously. "You, too, Benny," and he grinned at his old friend the scientist.

Sylvia had now joined the group. After greetings were over she insisted on their coming in and having coffee. The ex-fighter pilot was excited as a schoolboy at the prospect of working with his two friends once more, though he embraced his wife with tenderness before they finally got away.

Whiskers sat in the back of the car, but most of the time he was leaning forward, talking animatedly with his friends in front. Soon the irrepressible Wing Commander had Chris laughing affectionately at his stories, and thanks to him the journey seemed over in no time.

5

CHRIS KNEW WELL the wonderful organization located at the Farnborough Royal Aeronautical Establishment, center of all research in the science of flying. Here were housed the very latest apparatus for the trial of men and machines, and here planes were tested to destruction—and their pilots almost to destruction, too. Although two years before much of his preparation for the rocket flight had taken place at Farnborough, Chris had never lived on the Establishment as he must do now.

He was at his ease, and found the staff most kind. The Commandant at Farnborough was an old friend of Sir George. Chris, who had not met him before, liked him thoroughly. The morning after his arrival Chris had his medical examination and, as he expected, was pronounced perfectly fit. After lunch his training proper began.

An important part of the preparation was to accustom Chris to the terrific strain set up by the great acceleration of the rocket take-off. To help his body withstand the stresses, he

would have to wear a specially designed costume called a G-suit. Careful measurements were taken to be sent to the firm which had developed the most successful type of G-suits. Later Chris would visit the factory for the important final fitting. Meanwhile, he would begin his training by gentle stages.

Accompanied by Sir George and Wing Commander Greatrex, Chris paid his first visit to the giant centrifuge. This machine, which occupied a huge circular building, consisted of a gondola at the end of a long rotating arm. This arm was capable of being turned at terrific speeds by a huge electric motor. Instruments designed to record the reactions of the pilot in the gondola were visible in a glass-walled control room high in the building.

The white-coated staff operating the centrifuge were waiting for their visitors. As the machine was being readied for his first run, Chris recalled his experiences when preparing for his first flight. Speed, he knew, was relatively unimportant compared to the rate at which the speed was attained. Travel at thousands of miles an hour produced no ill effects provided the speed was constant; but it had been learned that if it were increased or decreased rapidly the traveler would experience the most acute discomfort.

There was no need for anyone to remind Chris that a convenient way to measure the rate of acceleration was in terms of the speed with which a body would fall under the pull of the earth's gravity. A falling body increases its speed of fall by about twenty miles an hour each second. This acceleration is referred to as one gravity, or more simply as one "g." So a body accelerating at forty miles an hour each second would be acting under a force of two "g." Though the human body, unassisted, could not withstand a force of many gravities, persons wearing specially designed suits had undergone accelerations of up to twenty "g." Chris knew that during the rocket take-off he must stand up to about twelve "g."

"We're only giving you one 'g' to start off with," one of the staff told Chris, as he helped him climb into the gondola.

The youth grinned in reply as he settled into the padded couch on which he would lie during the run. This he knew was provided because a person could stand a much higher acceleration in a reclining position. When he was settled, the door of the gondola was closed, and the people gathered around it moved away. Up in the control room an engineer stood peering down through the glass partition, his hand on the control lever. At a signal from his colleague below, the engineer pushed the lever one notch.

Immediately the huge motor hummed into life and the arm began to rotate at an ever-increasing speed. The gondola swung up horizontally behind the arm, and soon Chris was being hurled around at one hundred, one hundred and twenty, one hundred and forty miles an hour. He felt himself pressed hard into the couch. He permitted himself a smile as he remembered how scared he had been on his first run two years before. As power was switched off and the gondola began to slow down, the pressure vanished abruptly. Then quite suddenly, it swung up again—this time in front of the rotating arm. Once more Chris felt his body pressing into the couch as the brake was applied to the centrifuge. In a comparatively short time the apparatus came to rest, and the gondola was hanging below the arm.

Within a few seconds two of the staff had released the youth from his temporary prison, and he stepped down to the floor a little unsteadily. As he joined them, Sir George and Whiskers inquired eagerly how he felt. Chris reassured his friends.

"You can see now, Chris, why you've been asked," Benson said, nodding with satisfaction. "You'll get accustomed to the high 'g' forces much more rapidly than anyone else could. Now how about a spot of tea?"

Chris and the Wing Commander heartily agreed to the

suggestion, and soon the three were sitting around a small table

"Sir Leo Frayling will be here in the morning," Sir George told Chris as they finished their tea. "He's coming to look you over."

"What kind of man is he?" the youth asked.

Chris thought he noticed a faint tightening of the jaw as the rocket scientist spoke. "He's a first-class scientist, and a go-getter into the bargain. I expect he'll be giving you some information about what he wants you to do."

"What instruments shall I have to use this time?" Chris asked.

"I'd rather Frayling briefed you, Chris," Sir George said, a little shortly.

Greatrex, sensitive in spite of his hearty manner, jumped in and diverted the conversation. "Must put a call through to Sylvia tonight," he announced. "She'll be off to your aunt's tomorrow, Chris. Hope she won't get to doing too much in the shop," he concluded a little doubtfully.

Chris laughed. "You needn't worry about that," he said. "Aunt Mary will fuss over her no end. They'll both enjoy themselves."

6

CHRISTOPHER FOUND HIMSELF disliking the man whom the British Government had put in sole charge of the moon-rocket project. Why, he could not tell. Perhaps it was that in contrast to Sir George and Whiskers, Sir Leo seemed cold and unfriendly. His insistence on constantly addressing Chris as "Godfrey" was faintly irritating to the youth. When they were first introduced, Frayling looked at Christopher closely. "As if he were looking at me under a microscope," Chris thought. Sir George Benson and his superior were icily polite to each other, but that Sir Leo knew his stuff was clear very early in the session.

There were six men besides Chris in the briefing room—Frayling, Benson, and the Wing Commander, and three other men whom Chris had not met before. While the chief scientist paced about the room, he spoke in a clear, precise way, as if he were giving a lecture to a room full of senior students.

"I've seen your medical report, Godfrey," he began, "and it seems quite satisfactory. Now I propose to enlarge on the

object of this undertaking and to explain precisely what you are required to do. You have, I understand, been informed that a further investigation is to be made into the domes and cone near Pico, and that we propose to try to discover more about the radiation emanating from the cone. Actually this is no longer correct. The sole object of this project is now the utter and complete destruction of those lunar structures."

Chris blinked. So he had been misinformed about his mission, had he?

Sir George read his thoughts accurately. "My instructions were to say nothing of that," he cut in quickly. He and Frayling exchanged sharp glances.

"Quite so," Frayling resumed. "Until you had agreed to undertake this mission, Godfrey, we were obviously not in a position to disclose its true purpose. I do not propose to give you the reason, but the British, Soviet, and American Governments are now in complete accord on its necessity. A confidential agreement with this end in view has just been concluded. I have the honor to be in complete charge of the undertaking, answerable only to our Prime Minister and the heads of the other two governments. Dr. Rosenberg, here" indicating one of the three strangers "arrived a couple of hours ago from the States. He will soon be followed by others.

"It has been agreed, Benson, that your establishment at Woomera shall undertake the launching. Its tracking and control stations are on land, whereas the American Air Force base has to rely on stations in ships. A greater degree of accuracy will be insured by using Woomera."

Chris was just as pleased as Sir George to hear this news. Woomera was familiar to him. He would be glad, too, to see his friend Mr. Gillanders, Benson's Deputy Director there, and his family once more. Benson's quick flush of pleasure and relief betrayed the anxiety he'd been feeling and his gratification at the compliment implied. At least he'd be on

his own ground, with his own extremely competent and loyal staff.

"The structures will be attacked by rockets carrying atomic war heads of several megatons." Frayling continued. "Your mission, Godfrey, will be to act as pathfinder and to place a Levy beacon near the objectives. You will do this by dispatching a small rocket from your large one at a given point in your orbit. To insure the greatest possible precision, you will be required to report your exact speed, height, direction, and so on. We shall feed this information to computers, which will determine the precise instant for the release of the rocket carrying the beacon. When in position, the beacon will attract the lethal rockets that follow. Do you understand?"

"I think so," Chris replied. "What happens after I've dispatched the beacon?"

With only the briefest pause, and in the same authoritative manner, the chief scientist said, "You will orbit twice, then you will be told when to restart the rocket motor. This thrust will break your orbit and you will soon return to the earth's gravitational field. The actual landing will be effected by freeing the cabin from the rest of the projectile and then decelerating through the atmosphere by means of parachutes."

"Only this time, Chris, there'll be no one to interfere with their release," Sir George put in meaningly. Everyone there knew how, on his previous journey, a traitor had nearly caused the youth's death by preventing the release of the parachutes.

"Thank goodness for that!" Chris murmured. He was grateful to Uncle George for realizing his uncomfortableness in the presence of Sir Leo Frayling and for trying to put him at ease.

"You will have much the same preparation as I understand you had before," the chief scientist resumed. "Wing Commander Greatrex will supervise your acceleration training, which will have to reach fourteen "g." You will be familiarized with the instruments and cabin after you reach Woomera.

There is, however, one new and very important type of training you will have to undergo, Godfrey. The actual rocket journey will take almost two and a quarter days. You must become accustomed to spending at least this period of time in an enclosed space simulating that of the rocket cabin. Arrangements have been made for this to be done here at Farnborough."

"I'll be in the rocket, then, about five days?" Chris asked.

"Oh—er—yes, that is correct," Frayling agreed. "Now is there anything else you wish to know? Squadron Leader Lambert, here, will look after the endurance training. You might devote some time to this before your G-suit is ready. I think that's all. Benson, can you spare me a minute alone, please?"

Sir George nodded, and the little gathering dispersed.

After Chris had walked off with the Wing Commander, and the chief scientist and Benson were alone, Frayling spoke. "Benson," he said, "I'm not at all sure that this youth will stand up to the long enclosure. What is your opinion?"

"If anyone can do it, I'm certain Christopher can," Sir George answered shortly. "Remember, he's already exhibited a high degree of adaptability."

"I hope you're right. Now within a few days a shipment of rocket engines will be on its way to Australia. You will leave with Rosenberg, with whom you will cooperate. A limited number of test firings can be made at your convenience. Rosenberg will be responsible for the assembly of the engines, and Professor Boronoff will handle the war heads. You will be required to answer for instrumentation, communication, and tracking. Godfrey will be flown out to you about the middle of September. The provisional date for the operation has been fixed for September twenty-ninth, but this is subject to alteration in the light of subsequent progress. One other thing, Benson. About a hundred American scientists and technicians will be assisting Rosenberg. A dozen or two Rus-

sians will be there, too. I trust your men will get on well with them. Anyone who doesn't, will have to be suspended immediately, for—remember this—no personal consideration of any kind whatsoever will be allowed to jeopardize the success of this undertaking. That is all."

"I understand—and thank you for the warning," Benson answered coldly. Without another word, the two men parted.

Some distance away one of the men who had been present at the briefing joined Christopher and Greatrex. "Hello!" he said. "May I tag along?"

Whiskers grinned. "Sure. Lambert, isn't it? Your chief torturer, Chris, or at least one of 'em."

"Not quite that bad," Squadron Leader Lambert protested with a smile, "Though some folks do find my activities at bit of an ordeal. Hope you'll survive, Christopher."

"He'd better," Greatrex said darkly.

"I'll do my best." Chris smiled. "When do I get my first dose?"

"As soon as you like. Would you like to walk along and see the 'torture chamber'?"

"Why not?" Chris answered with mock resignation. "I may as well get acquainted with it as soon as possible."

Led by the Squadron Leader, Chris and Greatrex followed into one of the many buildings. On the door was a sign: *Aero-Medical Laboratory,* and beyond was a vista of weird and wonderful apparatus used by the researchers in putting volunteers through all sorts of experiences to discover human reactions under extreme conditions. Lambert led his companions toward one of these peculiar contraptions.

In shape, it was like a rather large refrigerator with a peculiarly constructed door. From various parts a mass of wires led to a bench of instruments, which registered conditions inside the "box," as the men called the contrivance. Some of the dials recorded the reactions of the victim; others indicated the various conditions of temperature, pressure, and atmos-

phere, which could be created inside. Twisting a catch, the Squadron Leader flung open the door to let Chris and Greatrex peer curiously inside. Thick walls gave complete insulation. The one thing inside was a chair, resembling a dentist's chair.

At a nod from Lambert, Chris climbed inside and sat in it. His first impression was one of confinement, for the thick walls considerably reduced the space inside. A couple of lamps provided illumination and Chris could see quantities of wires, gauges, dials, and other instruments which reminded him of the cockpit of a plane.

"Like to have five minutes' solitary confinement?" Lambert asked.

"Might as well." Chris laughed as he settled down into the chair and called, "Don't go away and forget me!"

"I'll see to that," Whiskers assured his young friend cheerily.

The door swung to, and Chris had his first taste of the deathly silence that he was to hate so much. Never before had he realized what a great part sound played in everyone's life. When he had made his previous journey into the lower levels of empty space there had been various sounds—the click of instruments, the vibration of the rocket walls, the crackle of a loudspeaker. Here the silence seemed almost tangible and he found himself holding his breath. In spite of its absurdity, Chris felt compelled to make some kind of sound to reassure himself. His fingers began to tap rhythmically on the side of the chair. It was a welcome relief when the door at last swung open, and he saw the smiling faces of the two Air Force officers.

"How did it go, Chris?" Greatrex asked.

"Pretty eerie," Chris replied, climbing out. "Don't think I'm going to like it much."

"You'll get used to it," Squadron Leader Lambert assured him. "We'll have the radio on next time. Now would you care to look at the rest of the lab?"

For the next hour Chris inspected all the fearsome gadgets

devised by modern technology to test and torture the human body. His guide explained how they worked and for what purpose. When invited to try out some of them, Chris politely declined, though expressing his most grateful thanks to the Squadron Leader. Greatrex, too, exhibited an unnatural shyness when the invitation was extended to him.

7

No matter how he tried, Christopher could not overcome his reluctance to enter the "box." He had never before experienced claustrophobia—that shut-in feeling. Now, every time the door closed on him, he had to take a firm grip on himself in order not to cry out to be released. Although after the first session he was in constant communication with Whiskers and Lambert, he felt infinitely isolated. Before the radio was switched on, or if it went off for any reason, the silence became actually painful to him, though he would not have admitted it to a living soul.

His first informal introduction to the "box" had lasted only five minutes. But now a proper program was worked out, with steadily increasing periods. A careful log was kept by Squadron Leader Lambert, with notes on the youth's reactions—or at least all those to which he confessed.

One hour. Two hours. Three hours. Steadily the periods were lengthened. Four hours. Five hours. But now other sensations began to trouble Christopher. At first he was reluctant

to admit them, but under the gentle and persistent persuasion of the Squadron Leader, who pointed out that it was his business to discover and combat them, Chris confessed to extreme boredom and some cramp. Periodically he found himself becoming irritated, and sometimes it took the utmost effort of his friend Wing Commander Greatrex to persuade him to continue the series.

Squadron Leader Lambert devised various routines to overcome these undesirable symptoms. He instructed Chris to devote two five-minute periods in each hour to flexing and massaging his limbs. This helped greatly, though the massaging was gradually reduced since it would not be possible with the G-suit on. A number of tasks were given him to perform at regular intervals, such as reading the various dials and reporting over the radio to the Squadron Leader. At first Chris welcomed the faint noise of the oxygen supply passing the inlet valve, but soon he could not tolerate it and modifications had to be made.

Twelve hours! Chris staggered out of the box almost weeping. It was no use. He could not go on. He felt that he would stifle and die if ever he entered that infernal apparatus again. The two officers looked at the youth in genuine distress. Whiskers hated to see his young friend undergo such an ordeal. Lambert disliked the job just as much, yet he had his orders. Moreover he knew that the whole undertaking was dependent on the psychological stamina of this youth. He would have to send a special report to Sir Leo Frayling.

On the centrifuge, Chris fared much better. Nine days after he arrived at Farnborough he had the final fitting of his G-suit, and the next day it was ready. Now he could really get down to those high accelerations that were required. After carefully putting on the suit with Greatrex's assistance, he entered the gondola and had a short trip at six "g."

"This won't worry me at all," Chris told the Wing Commander when he came out.

At Sir Leo Frayling's request, Squadron Leader Lambert made a hurried journey to London in the wake of his report. When he entered the office that the Air Ministry had assigned to the scientist, he found Sir Leo seated at a scrupulously tidy desk. Besides the telephone the only thing on the polished oak top was his report.

"I've studied your report," the chief scientist began without any preamble. "It is most unsatisfactory. What do you think the chances are of increasing the youth's tolerance of confinement?"

"Very remote, I'm afraid, sir," the R.A.F. man replied. "I think we may even experience a recession from the present duration. Christopher was extremely distressed after his twelve-hour test yesterday, and I doubt whether he can be persuaded to take a further one for some days. I tell you frankly, sir, young Godfrey will never be able to stand five days in the rocket."

"It's two and a half days I'm asking for at the moment," Frayling said grimly. "The important thing is for him to arrive in the moon orbit in a psychologically stable condition, capable of performing the vital task assigned to him."

For some minutes the two men faced each other in silence. Was this to be the end of their plans? Did the inability of this youth to endure close confinement for long periods mean that mankind must continue to be the victim of the unknown power on the moon? Should they try to find someone else and start afresh? Yet what guarantee would they have that the new volunteer would be any better than Chris?

Frayling's eyes narrowed. "No personal considerations of any kind whatsoever must be allowed to jeopardize the undertaking." These had been his own words. Very well! He looked at Lambert sharply. "Godfrey must be anesthetized," he said briefly.

"But—" The officer's incredulous comment faded into silence before the cold gaze of Sir Leo.

"What were you about to say?" Frayling demanded.

"You don't—you can't—mean that Christopher Godfrey is to be drugged like—like the apes and dogs we've doped."

"That's precisely what I mean," the scientist snapped. "He must be anesthetized immediately after take-off. Then he must be restored to consciousness in time to transmit the critical data. Quite simple, really."

"Suppose he refuses?"

"Heavens, man! We can't let his qualms allow civilization to break down. It's your job to overcome any difficulties of that kind. We'll decide details of type and method of administration later. That's all for now. Good morning."

It was a dazed and unhappy Lambert who stumbled out of the Air Ministry building.

Shortly afterward Frayling left to attend a special meeting of the Cabinet. The meeting was to be a full one, for some days before, the Prime Minister had decided that the whole Cabinet must be informed of the situation. In addition, the leader and deputy leader of the Opposition were invited to sit in on all meetings when the radiation was discussed. On the following day Parliament was recessing for the summer, but four questions on the subject were down on the order paper, and it seemed that the situation could no longer be concealed.

The Cabinet was evenly divided. One section, led by Furnival, Minister of Fuel and Power, wanted to inform Parliament of the real cause of the disastrous power situation. It was only fair, Furnival thought, for the public to be told that the great dislocation of normal routine was caused by an outside source, and that neither he nor his engineers were in any way responsible. "Tell the man in the street everything," Mr. Furnival argued. "You can trust him to be sensible."

The opponents of this viewpoint pointed out that to proclaim openly that the earth was being subjected to radiation bombardment, probably directed by extra-terrestrial intelligences, would be to run a grave risk of world-wide panic. In

any case, since other countries were as deeply involved as Britain, any publication of the facts should be by agreement. They argued that it was better to fight for time in the hope that the measures now under the direction of Sir Leo Frayling would be effective.

The tense discussion was interrupted as a private secretary entered the room with a note for the Prime Minister. After reading the message, he called the meeting to attention.

"Gentlemen," began the Prime Minister, "I have just had word that Sir Leo Frayling has now arrived. Shall we suspend the present discussion in order to hear a report from him? It may help us to make up our minds."

Amid the general murmur of assent, Mr. Beaumont instructed the waiting secretary to show Sir Leo in. Within a few seconds the chief scientist entered the door. He made a stiff little bow to Mr. Beaumont and walked primly across to the seat indicated by the secretary. From a battered leather briefcase, he took a sheaf of papers.

"I see you are quite ready, Sir Leo," Beaumont observed with a wry little smile. "Will you please let us have your report."

"With your permission, I will give you a brief summary first," Frayling stated, "Then I will go over it again in greater detail."

Mr. Beaumont inclined his head in agreement, and the scientist, in his best lecture-room manner, began:

"Since the agreement was made with the United States and Russia, we have worked in closest possible harmony, and I would like first to express appreciation at the thoroughness of their cooperation.

"As you know, it has been decided to use American rocket engines and Soviet war heads, with the British guidance and tracking system. The launchings are to be made from our own base at Woomera. At this moment a United States aircraft carrier is sailing at utmost speed toward Adelaide. On board are thirty-nine Jupiter C rockets. These are three-stage vehi-

cles, even more advanced than the Russian Sputnik rockets, and developed originally as intercontinental ballistic missiles. Jupiter C, with slight modifications, has the ability to perform the task required. In a fast Soviet cruiser, now nearing Australia, are some two dozen war heads, which, if we can insure their delivery, are more than sufficient to obliterate the cone and the domes. Accompanying the first cargo is a task force of American experts to assemble the rockets, after which the Russians will fit the war heads. Dr. Rosenberg, with Sir George Benson, will be flying out to Woomera in two days' time. The Russian Professor will join them later. If everything goes according to present plans, the launchings are planned to take place on or immediately after September twenty-ninth."

The men listened silently to Sir Leo. The scientist was as unemotional as if he were explaining one of the simpler laws of physics. Perhaps it was this very quality of his report that made the hearts of his listeners lift. Here is a man, they thought, who knows precisely what he is doing and who hasn't a doubt that the radiation can be stopped. A murmur of relief went up around the room. Quick to note the impression he had made, Frayling hastened to go on with his report.

"I have little doubt that the mechanical part of this project will operate satisfactorily," he said. "I am, however, greatly concerned about the other part—the human side. Frankly, I am gravely concerned about the present situation since it seems that the youth you have provided—Godfrey—is incapable of enduring the confinement required on this flight. He has been undergoing a course of conditioning at Farnborough during the last ten days, but he seems to have reached the limit of his endurance. This is about twelve hours against an absolute minimum requirement of sixty. What are we to do?"

The Prime Minister and his colleagues, beginning to take heart from the scientist's report, felt their rising hopes dashed. They looked blankly at one another. Here indeed was a blow.

Could nothing be done about it? Was it not possible to get someone else? Must there be a human pathfinder?

Frayling read the thoughts of his audience correctly, and it gave him a certain grim satisfaction to see the effect he had caused. "Unless you have any suggestions, gentlemen," he said with the very faintest hint of a sneer, "perhaps you will give me a free hand in the matter. I think there may be a way around the obstacle."

There was a vigorous nodding of heads among the Cabinet Ministers. Then the Prime Minister spoke for them all.

"Of course you have a free hand, Sir Leo. We have already made that clear. None of us is a scientist, and we are entirely dependent upon you and your associates to rid us of this menace. The need is so grave that you may take any steps you wish to overcome obstacles. That cone must be destroyed."

"Thank you, sir. I wanted confirmation of your support. It may be necessary to adopt some unorthodox procedures to obtain what we want. This I can do more easily now that I know I have the Cabinet behind me."

"Just a minute, Sir Leo," Hilary Sandford broke in. "These unorthodox procedures you mention—have they anything to do with the youth you want to fire up in the rocket? Is it something you have in mind to get him to stay in the cabin the required length of time? You are not going to put him in against his will, are you?"

The scientist permitted himself a cold little smile. "Certainly not," he answered quickly. "It would be quite useless to do that. We must have his willing cooperation to insure complete success."

"I think we can leave matters to Sir Leo," the Prime Minister cut in quickly. "We have already expressed our complete confidence in him."

"Thank you, sir," Frayling murmured with a slight inclination of the head. "Now perhaps you would like to hear my report in more detail?"

8

CHRISTOPHER WAS FEELING very dejected. All the efforts of Wing Commander Greatrex to cheer him up were useless.

"It's no use, Whiskers," he complained. "I can never stick that coffin for more than twelve hours at a stretch. I should go crazy if I had to stay in any longer."

"But Chris, old man, I'm sure you'll get more used to it if only you'll stick it out. Your oxygen supply is perfect, you're in constant contact with the outside world by radio, you—"

"Oh, I know all that," Chris sighed, "and I still feel as if the walls are closing in on me. I feel I shall suffocate or be crushed to death. I'm afraid I'll never get used to it."

"Nonsense, Chris. After all, you got used to the centrifuge pretty quickly, and you'll have no trouble in taking all the 'g' they can give. Why not have another go at the 'box'?"

"I'll go in again, certainly," Christopher agreed, "but I know I just can't stick it for anything like the time they want me to."

"But the whole operation goes west if you can't stick it," Greatrex said seriously.

"I know, I know," Chris moaned in genuine distress. "I feel such a fool, too. I'd do anything if I could stick it out."

"Would you, Christopher?"

Squadron Leader Lambert had come into the room and had overheard the last part of the conversation. Suddenly he knew that the job Frayling had thrust upon him—the task of persuading Chris to take an anesthetic—would not be such a hateful one as he had feared. He must strike home while the youth was in his present mood.

At the sound of the Squadron Leader's voice, Chris looked up and blushed.

"Oh, sir, you know I've tried," he answered, "I really would do anything if I could endure that confinement."

"Now look, Chris," Lambert said carefully. "I've had to report progress to Sir Leo Frayling, as you know. I've told him that, game as you are, you can't possibly manage more than the twelve hours. So he's made a suggestion that he wants me to put to you. Then it's entirely up to you."

"What does he say?" Chris asked miserably.

"Well, he suggests you try an anesthetic," the Squadron Leader answered apologetically. Chris heard the sharp intake of his friend Greatrex's breath, as the significance of the proposal struck them both. How he hated having Sir Leo know that he couldn't stick it! It wasn't because he hadn't courage. It was just a physical inability to tolerate confinement any longer. Well, he'd never let Sir Leo think he was a coward. He'd take the anesthetic if that was what he wanted.

"I don't mind," Chris said quietly to the waiting Squadron Leader. "I'll try anything once. How will you work it?"

"Good lad!" Lambert breathed with relief. He knew of the courage of this young man, but he'd fully expected him to balk at taking an anesthetic in cold blood just to overcome his

claustrophobia. Yet here he was agreeing to the scientist's solution almost before it had been put to him.

"We haven't thought out details, but I imagine you'll be anesthetized just after take-off and kept under till just before you get into orbit, then revived in time to be fully conscious for transmitting your position and putting down the Levy beacon. Then I suppose you'll be anesthetized once more for the journey back."

"Will Chris be having any try-outs on this anesthetic stunt?" Wing Commander Greatrex asked seriously.

"Oh, yes. I'll work out a program for him. We'll give you quite a pleasant gas, Christopher, with no aftereffects. Let me know when you'd like your first dose."

"I'd like to try it as soon as possible," Chris answered. "All I hope is that it helps me to do the job."

"Tomorrow, then. That fit in with your arrangements, Greatrex?" Lambert asked.

"Sure. Chris has to have a bash on the centrifuge in the morning. After lunch?"

"Fine. See you tomorrow afternoon then, Chris," the Squadron Leader said with deep relief.

That evening Christopher had a night out. After an early tea Sir George Benson whisked him and Greatrex to London where the three friends went to a West End show. Chris thoroughly enjoyed the performance, which was both spectacular and wildly funny. When they came out, Benson took them to a famous restaurant where they had a wonderful meal. As they talked happily together, Chris thought how little he'd seen of Uncle George since he'd been at Farnborough. Perhaps when he got out to Woomera he'd see more of his friend. What a pity it was that Uncle George would not be in over-all command at the rocket range! He hated the idea of that fellow Frayling being the big noise for this Operation. Gosh, how he detested him!

As they sped back to Farnborough, Sir George told the

other two that he would be leaving for Australia the next day and would not be seeing either of them again until they arrived out there for the big show. That was, of course, if the anesthetic enabled Chris to overcome his difficulty. Chris declared stoutly that he'd be all right, and that Sir George was to tell Mr. Gillanders and his wife and daughter how much he was looking forward to staying with them once more.

It was well after midnight when they reached Farnborough. As the scientist had to drive back to London to catch an early plane from London Airport, they did not spend much time over their farewells. Sir George's remarks to Greatrex were of the usual boisterous kind with which these two old friends always addressed each other. But when he turned to Chris, Benson was much more restrained, perhaps even embarrassed. The two hadn't much to say to each other, but the firm, tight clasp of hands made words unnecessary.

As the scientist climbed back into his car and drove away, Chris watched him affectionately. They were in this adventure together, he thought. For himself he had no fear. He trusted Uncle George implicitly.

"As far as the job will allow, I want you and Benson to work independently," Sir Leo Frayling was saying to Dr. Elton Rosenberg. It was the last opportunity they would have to talk alone together before the American left with his British colleague, Benson, for the Australian rocket range.

"There are several reasons," Frayling went on. "As you know, Benson has done a first-class job for British rockets and has gathered together an excellent staff at Woomera. But because your Jupiter C is the vehicle chosen, our own know-how will not be required. You will be solely responsible for the assembly and fueling of the rockets. Benson will take charge of instrumentation, guidance, and tracking. I myself will give the firing orders, including directions to the youth in the pathfinder.

"In order to avoid any possible friction between you and Benson, all contact will be channeled through me. Until the final stages, the Russian party will also work alone. I shall be following you in a couple of days with certain modifications I shall want made on the pathfinder. Until I get there, I've asked Benson to spend the time showing you the ropes. You will also have the unloading and transport of the rockets to supervise. Your men should arrive almost at the same time you do. All clear?"

"Yes, quite clear—though I'd prefer working with Boronoff and Sir George rather than separately," Rosenberg said.

"Out of the question." Frayling spoke sharply. "There are a number of considerations that prevent this. I needn't trouble you with them, for they are my responsibility."

"Very good, Sir Leo. I hope Benson understands it's not my wish to work separately?"

"Both Boronoff and Benson have had their instructions just as you have had. You are to adhere to them strictly." The scientist spoke with finality. The interview was over.

Hours later, high above the clouds, a plane flew smoothly on. Two scientists, each an expert on rockets, with much in common, felt a strange unnatural barrier between them, a barrier created by the cold man whom their respective Governments had put over them.

At Farnborough a youth, barely nineteen years old, was in a gondola whirling round and round at an ever-increasing speed, training to undertake a supreme task in the service of mankind.

In the House of Commons harassed Ministers were facing a barrage of questions about the great power cut, for the position had been brought home sharply to Members by growing unemployment and widespread distress. There was an element of fear as well as of anger in the request from all sides for an authoritative Government statement. At last the Prime

Minister was forced to promise that the Cabinet would issue a statement within the next forty-eight hours.

"I hope Frayling has overcome the snag with young Godfrey," he muttered to Hilary Sandford as he sat down. "It will be so much easier if we can give them hope."

On the instructions of Squadron Leader Lambert, Chris had had no lunch, and he was feeling more than a little hungry as he and Whiskers went to keep their appointment in the Aero-Medical Lab. Oh well, he thought to himself, it's all in a good cause, and I'll jolly well make up for it later.

Lambert was waiting to meet them. He insisted on making a quick but thorough medical examination of the youth. This over, he proceeded to give Chris an idea of what was to happen.

"Of course on the actual flight you'll be wearing your G-suit, which will have to be modified if the anesthetic is used. Meanwhile this afternoon we'll be pumping the gas directly into the chamber. A tube will be led through the wall of the 'box' to the gas cylinders here. We'll start you off on oxygen. Then we'll turn on the anesthetic. Finally we'll bring you round with oxygen again. Shout out as soon as you are conscious and we'll let you out. Agreeable?"

"Oh, yes, I'm ready. How long shall you keep me under?"

"Not for long this time. We'll have to fix one or two extra gadgets on you, I'm afraid. Must keep check on your pulse, you know."

"Are you going to give Chris the gas?" Greatrex asked.

"No. A couple of our best anesthetists are on their way over now. I'll bet they've never done a job like this before."

"I always seem to be breaking fresh ground," Chris said with a laugh.

The two men came in and were introduced. They had evidently gone through everything before with Lambert, for they knew exactly what was required. With a cheerful grin at

old Whiskers, Chris removed his collar and tie and climbed into the "box." Then he sat back in the big chair and tried to relax. He could hear the oxygen quietly hissing past the valve.

"Don't forget, Chris. Yell out as soon as you come round or if anything goes wrong," Lambert called through the door. "We're keeping the 'mike' alive all the time."

The youth nodded and gave a thumbs-up sign to the officer. Replying in the same manner, Lambert waved cheerily and withdrew his head. Then the door swung to, and Chris settled back. He was determined to keep calm, no matter how long it was before he lost consciousness.

Only the low hiss of the gas entering the "box" broke the deep silence of that cramped little chamber. How long would it be, Chris wondered, before they turned on the anesthetic? Would he be able to tell when they switched over from oxygen? He wished they would hurry up. His ears were beginning to sing as he strained to catch any change in sound that might indicate the change-over.

Suddenly the noise in his ears stopped, but his mouth had become very dry. Impatiently he stirred. Why didn't they get on with it? At last he could keep silent no longer.

"When are you going to turn the gas on?" Chris called into the microphone. He heard a confused babble of voices relayed back to him, then the door was flung open and the Squadron Leader leaned inside.

"Anything wrong?" the youth asked curiously.

"Wrong? No, of course not. It's all over, Chris. Finished! You've had the anesthetic and you've come around."

"What!" Chris exclaimed incredulously.

"Yes, you've been out for six hours," Lambert chuckled.

"I don't believe it," the youth said, climbing stiffly out of the chair.

But when he'd struggled through the door, Greatrex and the others confirmed the medico's statement. The Squadron Leader was jubilant, and a great wave of relief flooded over

Chris. At least he'd be able to go on now without letting Uncle George and the others down. He felt a new and boundless confidence in the future and in his ability to carry out his task.

The Squadron Leader and Whiskers questioned Chris closely on his first experience, and Chris, still hardly able to believe what had happened, described how he had felt. To him it seemed that those six hours simply had not existed. If the two days he would have to be inactive in the rocket could be wiped out in the same fashion, then the whole thing would be a piece of cake, he told them confidently.

"Well, we'd better not count our chickens yet," Lambert cautioned. "You'll have to have some longer tests before we can be quite sure. However, it all seems very promising, and I'm going to send a preliminary report to Sir Leo right away. Anything else to add, Chris?"

"Well, there is really—something very important," Chris replied gravely.

The two looked at him in momentary alarm.

"What is it, Chris?" the Squadron Leader asked anxiously.

"Just that I'm absolutely ravenous," came the laughing reply.

"Whacko!" Greatrex shouted in relief. "Just follow me!"

9

An authoritative statement could no long be denied to the peoples of the world. Everywhere there was growing unrest and a clamorous demand for action. If those uranium reactors had broken down, then it was up to the Governments concerned to provide other sources of power. For the first time, ordinary people began to realize how greatly modern civilization was centered around a reliable supply of electricity. Why hadn't plans been announced for reverting to more coal-fired stations? Was hydroelectric power being fully exploited? Wasn't there some other radioactive substance that could be used in place of uranium? Noisy protest meetings had been held in large industrial towns in many countries, and now reports were beginning to come in of mobs raiding food stores and coal dumps. In Britain restraint was hanging on a perilously thin thread. Would it snap before the cause of all the trouble could be eliminated? So much, so very much, depended upon one courageous youth of nineteen.

In anxious consultation the Governments of the world

agreed on a statement to be simultaneously issued in all capitals, with the utmost use being made of television and radio. In America the President was to address both houses of Congress, with his words being broadcast over every television channel and radio frequency. Likewise the British Prime Minister was to make the announcement at a combined session of the Lords and Commons. Government heads in other nations were to break the news to their respective countries. All over the world plans were made to release sufficient information and advice to allay the mounting disquiet.

By general agreement the time chosen was four o'clock in the afternoon, Greenwich mean time. For hours before, the normal radio and television programs had periodically reminded everyone of the appointed time. Normal broadcasts were maintained in an effort to reduce the mounting tension as the hour approached. It was noticeable that traffic almost disappeared from the highways as everyone made for a radio or television set. Factories that were still operating, offices, stores, and mines, all paused in their activities as the time grew nearer.

The House of Commons was crowded as it had never been before. Every seat, every aisle was occupied by members, while noble lords crammed the galleries. A discreetly placed television camera was focused on the spot from which the Prime Minister would speak. The microphone in front would carry his words to the farthest corners of the Commonwealth.

Only the Government front bench was empty and the two seats opposite, reserved for the leader of the Opposition and his deputy. The House was strangely silent; nothing but occasional stifled coughs could be heard in that sometimes noisy chamber. Everyone seemed busy with his thoughts, and in suppressing the little fluttering each one felt in his chest. The country, and the world, waited.

At two minutes to four a slight sound rose from the hundreds of men and women waiting so tensely in that historic

hall. The Prime Minister, accompained by his Cabinet and the two leaders of the Opposition, had quietly entered the Chamber and were gravely walking to their places. All eyes were turned on the man who, in a few seconds, would tell them, and the multitudes beyond, the news they all feared to hear, the news that might conceivably change their lives.

Mr. Beaumont sat stiffly on the leather-covered bench, a clip of papers in his slightly trembling right hand. His face was set and rigid, and many wondered what secrets were locked behind that brow. The seconds ticked on. The whole world waited.

Suddenly, breaking the intense silence there came a faint, deep sound as Big Ben began to chime the fateful hour. All around the Chamber there was a sharp intake of breath as the Queen's First Minister rose to his feet. Gazing straight ahead, oblivious of the watching throng and the countless millions outside, Mr. Beaumont waited those endless seconds until the first stroke of the hour denoted that the time to speak had come. He looked down at the paper in his hand, filled his lungs with a deep breath, and began to read:

"At this precise moment, leaders of almost every nation on earth are speaking to their people. The statement I am now reading is being made all over our planet, for all mankind is faced with a common danger.

"No longer is nation warring against nation. No longer must creed, religion, politics, or color be a source of division among the peoples of the world. We must unite to withstand a danger that has come from beyond.

"The Governments of the world, in close consultation, have decided to inform their peoples about this peril, and to tell them what is being done to overcome it. The Governments believe that, in so doing, they can depend upon the courage and fortitude of everyone, for only by a calm and resolute bearing by every man, woman, and child will this menace be destroyed."

The Prime Minister lifted his eyes for a moment from the script he was holding. He reached down to a glass of water from which he took one quick sip. Then in his clear voice he read on:

"On the moon there have appeared certain artificial structures. We do not know how or why. All we know is that they have not been made by men.

"The failure of atomic-energy stations all over the world is being caused by an intense stream of neutrons which, it seems, are being deliberately radiated at the earth from those alien structures on the moon. Why or how this is being done, we do not know. Nor do we know the long-term effects of this bombardment. What is certain is that our planet is being subjected to some form of attack and, unless this threat can be removed, our civilization will perish.

"The foremost scientists and engineers of the world have been mobilized, and urgent measures are being planned to destroy this menace. Let us, therefore, resolve—each and every one of us—to encourage and sustain our fellows by our own fortitude and calm, and let us all pray to our God that in His good time this peril may be forever removed."

There was complete silence. In common with all in that crowded Chamber the Queen's First Minister found his mind a tumult of conflicting thoughts as he finished the official statement and laid down the paper on which it was written. Like a swimmer who dreaded the cold plunge, he had shrunk from this ordeal, but now that it was over he felt a great relief. Anyhow, the people of the world now shared this awful knowledge instead of just the selected few. How would the ordinary man react? That was now the question.

Mr. Beaumont had often heard it said that the British House of Commons was a true cross-section of the community as a whole. Though perhaps not strictly accurate, at any rate he believed it sufficiently near the truth. And so he watched the members intently. The men and women in that great hall, he

saw, seemed frozen by the words they had just heard. For some seconds their processes of thought seemed to have stopped. Then a gentle sigh seemed to rise from them as almost in unison men and women let out the breath they had unconsciously been holding.

Never had such amazing news been given in that House before. Never in history had men and women had to face a situation like this. Many felt a chill of fear, kept in check only by the presence of so many others. Many refused to accept what they had heard. Surely this was pure science fiction!

Science fiction? Who had not at some time or other smiled at the incredible stories that had been written? Creatures from Outer Space—how amusing those tales had seemed! Yet here—in the British House of Commons—the Prime Minister had just made a statement that vied with the most improbable stories anyone in the hall had ever read. A cold chill began to grip many hearts. So mankind was now really and truly menaced by some malevolent entity beyond its ken.

Mr. Beaumont was still on his feet. He had been steadily watching the effect of his words on the faces of those present. Now he switched his thoughts back to the task of choosing the words he wanted to say. He cleared his throat a little noisily to recapture attention.

"The statement you have just heard," he began, "is one of the gravest that has ever been made in this House. For the first time in its history, mankind has been made aware of the presence of other beings in our universe. We have talked, we have read, we have dreamed of this eventuality, but never before have we really believed it possible. Yet now we know beyond any reasonable doubt that such beings exist, and that their existence is menacing our own.

"You have heard of the harmful radiation being emitted from the cone on the moon and that measures are being taken to minimize its effect. It is now my duty to tell you more

about these measures that are afoot to rid our planet of this menace.

"British scientists were the first to recognize this danger to the human race. Their reports and theories were reported to the American and Russian Governments. The British assessment of the situation was accepted without reserve. At the same time the Minister of Defense, on his recent visit across the Atlantic, put forward certain proposals to combat this danger. I am happy to say that the Governments of the United States and of the Soviet Union have placed themselves and all their vast resources wholeheartedly behind us. These measures are even now being pushed to completion, and a British scientist, Sir Leo Frayling, has been given over-all responsibility for the operation.

"I cannot, at this stage, reveal details of the exact countermeasures that have been commenced, except to say that our own rocket range at Woomera has been selected as the headquarters in this battle for men's existence.

"You will see that Britain has been in the forefront all along. All the countries of the world are watching anxiously what we, with the help of our American and Russian friends, are going to do. Few of us can take an active part in this titanic struggle, yet we can all play an essential role in the preservation of civilization. For just as our scientists and engineers are leading this universal fight, so must the people of Britain set an example to the world of courage, adaptability, and resolute calm. If we all play our part in the difficult days that lie ahead, if we stand shoulder to shoulder with our brothers of all races, if we remain cheerful in all circumstances, then, by the grace of God, we shall win through, and this evil thing will be wiped from our lives."

The Prime Minister sat down and a low murmur rose from the crowded benches. Everyone still spoke in a hushed voice. It was as if all were aware that the eyes and ears of a waiting world were upon them.

A moment later the leader of the Opposition rose to speak. Gone was all party strife and bitter political battling. In a statesmanlike speech the leader pledged the support of his party. Others followed, speaking in the same vein. Gradually an air of almost religious fervor developed in that crowded House. As always, Britain was going to rise to the occasion. Fears were calmed; faces became resolute. Once more all were comrades together.

10

While ordinary people in Britain and the rest of the world were assimilating this frightening information, Christopher Godfrey continued the preparations for his vital task. He had watched the Prime Minister's broadcast on the television screen in the officers' mess, and he felt a tumult of emotion as he told himself how much depended on his own ability. Would he be able not to let Uncle George and the world down? It was frightening to realize that he was the centerpiece of this critical venture.

It came as a relief to Christopher when Squadron Leader Lambert informed him that he was ready to make a full-length test. Chris was to enter the "box" and remain there, under anesthesia, for fifty hours. If the test was successful, then the way would be all clear, and the youth could go out to Woomera without further delay.

The test was scheduled to commence at noon. Following the usual custom, Chris had to miss his breakfast, which omission

was made harder by observing the excellent meal eaten by his friend Whiskers.

"Never mind, young feller-me-lad," the Wing Commander said heartily, "I'll see that you get a jolly good meal in—er—two days' time."

"Such is the price of duty," Chris sighed as he watched his friend's mustache waggle up and down as he chewed—a sight that never failed to fascinate him.

Lambert was waiting for them in the Aero-Medical Lab. While another officer gave Chris his usual medical check-up, the Squadron Leader explained just what would happen.

"You'll wear your G-suit, Chris, just as you will on the flight. We've had to cut out the mask because of technical difficulties with switching over from oxygen to anesthetic. In the rocket the atmosphere of the cabin will be varied just as it is in the 'box.' As you know, the main function of the mask was to minimize the danger that would arise if the cabin were to be punctured by a meteorite. I'm afraid that's a risk we shall have to take, though I expect they'll pay attention to extra shielding."

When his examination was finished, Chris stripped and was helped into his G-suit. He'd worn it several times before on the centrifuge and was reasonably comfortable in it in spite of its bulk. It was a tight fit squeezing through the door, but he was soon in the "box" and lying back comfortably on the reclining chair.

"As soon as you come round, Chris, I want you to read off each of those dials in front of you," Lambert said. "It's to check on how rapidly you get back to normal. You may be a bit hazy at first, owing to the longer period, but we want to find out for how long. We're going to keep a close check on you all the time, so don't worry. We'd bring you round at once if anything went wrong. All set?"

"I'm all right," Chris declared with perhaps a little more

assurance than he actually felt. After all, it was no small thing to be put to sleep for more than two days. Still, he comforted himself, he'd heard of people being unconscious for weeks, sometimes months, as a result of an accident, and then being all right again afterward.

"Cheerio for now!" Lambert and Greatrex called as they prepared to seal the "box." A second later the door had swung to, and that heavy silence was around him. Then the gas started hissing, and Chris settled down curiously to observe the result. How long, he wondered, before he faded out? When would that hissing—noise—stop?

Outside the "box," Squadron Leader Lambert and his two assistants completed the job of sealing the door—a task that took them a couple of minutes. Then Lambert went over to the bank of dials and valves that registered Chris's pulse and respiration, and from which the flow of oxygen and anesthetic was controlled. Everything was going well. The Air Force doctor pointed out to Greatrex how the youth's heartbeats and rate of breathing at first slowed down and then remained steady as he slipped into unconsciousness. As long as the readings on the two dials did not fall below certain critical figures, everything inside the "box" was all right. If for any reason Chris's pulse or breathing should begin to slow down further, then the oxygen content of the anesthetic-oxygen mixture would have to be increased at once; delay would be dangerous.

One of the Squadron Leader's assistants, an expert anesthetist, took the first spell of duty watching the dials. As the readings had to be observed constantly, it was arranged for each of the two experts to be on duty for not more than two hours. After watching for about a half-hour, during which everything seemed to be going fine, Lambert and Greatrex strolled away. They joined others who were drifting toward the canteen, but when they sat down Whiskers found himself with little appetite and his lunch was sent back almost un-

touched. For some reason, the Wing Commander was worried about his young friend.

During the afternoon Greatrex paid several visits to the Aero-Medical Lab. Everything was quite normal, and Chris's pulse and respiration were keeping steady. Lambert tried vainly to allay his colleague's concern, but Whiskers still felt restless and anxious.

Hours passed. Night came and still everything was fine. Chris seemed quite all right, and the pointers on the two vital dials never moved. Still Wing Commander Greatrex couldn't settle down, and he found this disquiet interfering with his sleep. At about three in the morning he could stand it no longer. With an impatient gesture, he flung off the bedclothes, dressed, and walked once more to the laboratory.

All was quiet, except for the faint hum of an electric motor. The place was well lighted, and Greatrex could see the anesthetist on duty bending over the valves and dials. But the center of the Wing Commander's attention was that structure they called the "box." Somehow, to him it seemed now to have a sinister look, like a huge coffin. Inside, he knew, lay his young friend, motionless as if in death. In spite of himself, Whiskers could not suppress a little shudder. He turned to speak to the man on duty.

The anesthetist was still bending over the dials on the instrument bench, but something strange in his appearance caused the Wing Commander to step swiftly up to him. As he got closer, Whiskers could see that the man was bending over the dials not to observe them but in agony. He was clutching his stomach, perspiration rolled down his face, and little moans of pain came from his ashen lips.

"What's the matter, old chap?" Greatrex asked in great concern. The man looked up and attempted a faint smile.

"I—don't know—what—it is, sir," he gasped. "It came on—ten minutes—ago."

"Look, can you get to the sick bay?" the Wing Commander

asked. "I'll take over here. I know how everything operates."

"Thank you—sir. I'll—try," the man groaned as he tried to straighten up. He took a step or two and then staggered. But for the pipe leading from the oxygen cylinder, he would have fallen. However, he saved himself by clutching the pipe and then managed to stagger out of the door.

"Poor chap," Greatrex muttered as he stood over the instruments. "I wonder if it's his appendix?"

He looked down at the dials and guages in front of him. All was well. He knew roughly how everything worked and was quite confident he could carry on until the next man came on duty at 4 A.M.

As he had seen the others do, Whiskers fixed his eyes on the dials for about fifteen seconds at a time. Then he would glance away to rest his eyes and take a look around the lab. Minutes passed. He could quite understand how welcome the relief man always was on this tedious duty. The pointers on the two vital dials were steady, though perhaps just a shade below what he knew were their normal readings. Greatrex watched the pointers, then looked away. When he glanced at the dials again he was sure the pointers had moved down slightly. This time he kept his eyes on them for a longer period. Good heavens, they *were* moving down! There was no doubt about it!

Whiskers' heart gave a leap of alarm, and he glanced around a little wildly. If the readings began to fall, Chris would be in serious danger. What should he do? The first thing obviously was to increase the oxygen supply. That, he knew, could be done by moving one of the valves on a notch or two. He did this, then again watched the pointers anxiously. They were still falling.

Now Greatrex began to get really alarmed. Unless the fall of those pointers could be reversed, the youth inside would die—actually was dying as he stood there staring wildly at the instruments in front of him. With a swift movement the Wing Commander opened the oxygen valve to the full, and the in-

creased hissing noise showed how much more gas was flowing.

Hissing noise? Something struck Whiskers like a physical blow. *There shouldn't be any noise.* Whenever he had been there before, when he entered the lab this time, in fact, there had been silence. Now there was an angry whistling coming from the "box." Frantically the officer's eyes sought the source of the sound. It seemed to be coming from where the oxygen and anesthetic supply pipes entered the cabin. Stretching up to his full height, Whiskers could just reach them. At once he felt a jet of cold gas against his outstretched fingers. The oxygen pipe was broken!

In a second the horror of the situation struck the Wing Commander. The sick man had staggered against the oxygen-supply pipe as he left the lab, and in doing so had caused a fracture just where it passed into the "box." All the gas was escaping into the outer air. This meant, Whiskers thought frantically, that only the anesthetic was entering the chamber where Chris was lying unconscious. So the atmosphere inside was increasing its proportion of anesthetic rapidly, causing the youth to sink into a sleep from which he would never awake.

As he stretched, Greatrex could just push the two parts of the broken pipe together. At once the hissing noise decreased in violence. Some oxygen at least was now passing into the chamber. He took his hand away and immediately the noise rose again. Quickly he pushed the pipes together and held them there while he thought over the position.

When he had last looked at the dials the pointers were dangerously low. He could no doubt open the cabin door and get Chris out, but, unaided, this would take from two to three minutes, and by that time he had little doubt but that the youth would be dead. Even if he called for help it could not arrive in time to save his young friend. No, the only thing he could do was to stand there and to hold together as best he could the two ends of the broken pipe.

It was a difficult and uncomfortable job, for the Wing Commander had to raise himself on his toes to reach the pipe properly. There was nothing at hand on which he could stand, so he was compelled to remain motionless at full stretch, holding the pipe together. Whether or not his action was effective, he could not tell, for he dared not release the oxygen pipe to go and look at the dials. His arms began to ache with the strain of stretching and sweat started to roll down his face. He could only pray that Chris could be kept alive until help came at 4 A.M.

Inside that sealed cabin lay the youth. His last conscious thoughts as he succumbed to the anesthetic had been terribly jumbled. Little quivers of fear at the long test persisted. Would he wake up in a moment and find it all over? Or would thought depart forever? Sometimes he saw bright lights flashing before his eyes even though his lids were closed. Occasionally he could hear a distant chord of music like the echoing of deep organ notes. Then all was quiet and dark as he sank deeper and deeper into unconsciousness. At the time when Whiskers first noticed the fall of the vital pointers, the healthy color of his face began to change. His breathing became more shallow, and his heartbeats more feeble and slow. Life was at its last flicker for Christopher Godfrey.

A few feet away, Greatrex groaned under the strain of holding the broken ends of the oxygen pipe together. The blood had long ago drained from his arms, and an excruciating cramp was seizing his muscles. Could he last till four o'clock? How much longer it was, he couldn't tell. When he tried to twist his wrist around so that he could see his watch, the angry hissing of the oxygen began again, so he hastily resumed his former position. If only he knew that his action was effective!

Time passed by on leaden feet. Perspiration started to roll into the officer's agonized eyes. Only by the very greatest ef-

fort of will power did he force his cramped arms to carry on their task. Would Chris be saved? Would help never come? At last, just as he felt he could endure the agony no longer, Whiskers heard the door of the lab open. Swift steps brought the startled Lambert to his side.

"Quick, man, the oxygen pipe's fractured," gasped the straining Wing Commander. "How—how are the dials?"

Lambert leaped swiftly to the instruments.

"Down just a bit," he called back.

"Thank God, only a bit!" breathed Whiskers. "They were way down before. He must be all right then."

The Air Force doctor wasted no words. He was a shorter man than Greatrex and could not reach the oxygen pipe unaided. With a call to Whiskers to hold on a second longer, Lambert sprinted away, returning almost at once with a packing case. This he put down and climbed upon it to relieve the exhausted Wing Commander.

For some little time Greatrex was scarcely able to lower his arms. At last he managed to get his circulation going, but found the process excruciating. As he painfully tried to massage his arms, he walked over to the instrument panel. Yes, there was no doubt about it. The pointers, though still not quite where they should be, had swung up from almost zero. Chris would pull through!

"Phone up the guard room," Lambert requested. "Tell them to turn out a couple of our fitters and get them here at once."

Whiskers promptly complied, then went back to see how the Squadron Leader was getting on.

"Let me take over again for a bit," Greatrex suggested. "It won't be such a strain standing on that box."

Lambert handed over.

"Are you going to get him out?" Greatrex, holding the broken pipe, asked his colleague.

The Squadron Leader studied the instruments carefully.

Chris now seemed to be breathing and his heart beating normally.

"I don't think we'll call it off," he answered slowly. "He seems all right now, and we should only have to start all over again. He'll probably know nothing about it. Now tell me what happened."

As the two men took turns holding the oxygen pipe, Whiskers told Lambert how he had come to the lab, found the man on duty in great pain and offered to take over till his relief came. The pipe he said must have broken when the sick man staggered against it, though he hadn't noticed it at the time. Greatrex went on to tell Lambert how, shortly afterward, he had noticed the pointers falling, and of his own vain efforts to get more oxygen into the cabin. Only by holding the two broken ends together had he managed it, and so it seemed Chris had been dragged back from the shadows just in time.

Now the two fitters came hurrying in. A few crisp words from Squadron Leader Lambert informed the men of what had happened and what was required. While the two officers continued to take turns maintaining the oxygen connection, the men prepared a sleeve which they soon clamped over the broken joint. Only then did Whiskers feel able to relax.

Before taking a final decision about continuing the test, Lambert watched the vital dials for a further ten minutes. As the pointers remained steady at the correct reading, it seemed that Chris had suffered no permanent ill effects and was back to normal. Greatrex agreed that it was better to carry on and not to let the youth know how near to death he had been.

"I'll see that there are always two on duty from now on," Lambert promised. Now that the danger was over, he felt rather queasy. What, just what would Frayling have said if things had gone differently? Greatrex, too, felt weak. He'd saved Chris's life—a second time. Automatically his mind went back to that other time when, on the other side of the world, he'd been lucky enough to prevent a ghastly tragedy. The

youth had come to mean a great deal to this boisterous officer with the huge mustache.

There were no other incidents during the remainder of the test. True to his word, Lambert arranged for two men to be on duty at a time, and Greatrex insisted on doing far more than his fair share.

Now the time was rapidly approaching when they would have to restore Chris to full consciousness by changing the atmosphere in the "box." When Lambert turned off the anesthetic so that only oxygen was entering, everyone in the lab felt the tension mounting. How would the youth have stood up to this exacting trial? Would his mind be able to function normally after this long anesthesia?

Inside, Christopher lay inert. His color had now returned to normal, and his breathing was light but steady. As the proportion of oxygen in the atmosphere increased, his respirations became stronger. Occasionally he would take an extra deep breath and then let it out with a little sound. Gradually his sleep became lighter until, after one deep breath, he uttered quite a loud sound which seemed to wake him up, for his eyes opened and stared blankly ahead.

Some minutes passed with Chris in that semiconscious condition when suddenly his eyes went into focus and he became aware of his surroundings. At first what his eyes saw did not make sense to him. Then, in a flash he remembered.

So he had survived! He was still alive.

Chris's mind began to function more clearly as he realized this reassuring fact. What was it he had to do? As he wrestled with the problem in his mind, a little frown of puzzlement creased his forehead. Oh, yes, that was it. He had to read the various dials he saw above his head.

"Are you all right, Chris?" the loudspeaker asked. It was Greatrex's voice. He had been calling out at intervals during the last half-hour. "Are you awake yet, old chap?"

The youth tried to reply, but found his tongue and throat

so dry that he had difficulty in forming a sound. He did at last succeed in uttering a sort of croak. The observers waiting anxiously outside heard, and a ripple of relief went around. Now Squadron Leader Lambert's voice came through the instrument.

"There's a tube in a clip above your head, Chris. See if you can take it out and squeeze some glucose into your mouth."

Christopher had noticed this tube before. It was like a large toothpaste tube, and he had wondered vaguely what it was for. Now he raised his arm to take it. He found his muscles very stiff from inactivity, but managed to grasp it, placed the opening to his mouth, and squeezed. A cool, sweet liquid flowed into his parched mouth. Ah, that was better. Now he could speak.

"I'm all right now," the youth told them. Then he began to call out readings from the instruments on the panel above his head. This went on for some time until Squadron Leader Lambert called a halt.

"We're going to let you out now, Chris. Get ready to face the big wide world."

Soon the door swung open and with a bound Whiskers was inside the "box" to help his young friend out. Disconnecting the various electrical leads from the G-suit, Greatrex assisted Chris from the chair. Chris found himself stiff and shaky, and was glad of his friend's helping hand. Outside, a little knot of men waited expectantly. Chris smiled a bit wanly at this reception committee. Lambert led him to a seat where someone handed him a very welcome warm drink.

"Just a light meal now, I'm afraid," Lambert told the youth. "Then we'll see if we can get a report out of you. Feel strong enough to toddle along to the canteen?"

Chris nodded. He wasn't feeling too bright, but no doubt he'd be better after a little refreshment. He had a slight headache, and it was a relief to breathe the fresh air outside the lab. A couple of hours later a delighted Lambert expressed

himself as completely satisfied with the test. Whiskers, too, was in high spirits. Chris himself was still hardly able to believe that more than two days had passed since he entered the little "torture chamber." It was as if, during a Monday, everyone started calling the day Wednesday. Where had the time between gone?

"I think that about completes our tests," Lambert was saying. "At least all those we have time for. How about you, Greatrex?"

"Oh, Chris finished on the centrifuge days ago. He'll only have runs now to keep him in condition," the Wing Commander answered.

"Then I see nothing for it, but—" Lambert paused in mock seriousness.

"But what?" Chris and Whiskers asked together anxiously.

"But—next stop, Woomera!" The Squadron Leader grinned and clapped Chris heartily on the back.

11

WOOMERA. That was the name of the little township that had been created out in South Australia, and that gave its title to the huge rocket range set up by the British and Australian Governments. Here, in the face of great physical difficulties, a community had grown up that now consisted of about three thousand people. Lying about one hundred and twenty miles inland from Port Augusta, Woomera was on the edge of a huge desert that stretched northwestward for more than twelve hundred miles. It was over this vast expanse of practically empty territory that the rockets and guided missiles were fired. Almost the only signs of civilization for miles around were the scattered tracking stations used to follow the flight of the rockets. Near each station was a landing strip, for the airplane was the only possible means of transport to these isolated posts. Radio, however, kept them all in close and constant touch with their headquarters at the Rocket Establishment and with one another.

Deputy to Sir George Benson, who had for some years been

the Director of Rocket Research at Woomera, was Mr. W.H.R. Gillanders. He was a tall, bronzed Australian, known to his friends as Billy. Between this first-rate scientist and organizer and his chief there was a close friendship.

Gillanders, with Helen his wife, and Betty his daughter, lived in one of the neat, white concrete bungalows that had been built for the scientists and their families in the little town. Sir George maintained his bachelor establishment in a smaller bungalow some little distance away. Now a whole series of prefabricated buildings was being rushed up to accommodate the hundred or so Americans who had arrived to assemble the Jupiter C.

The relationship between the Russians and Americans and their British and Australian colleagues was reasonably cordial. At first the technicians who had been assembling the British rockets were a little put out, but in the common interest, they soon forgot any resentment at having their own rockets superseded by the new monsters the Americans had brought with them. Before long, with Sir George's blessing, they were working happily under the direction of Dr. Rosenberg, the American scientist who was to be responsible for assembling and fueling the projectiles. The small Russian team were friendly from the first.

Benson and his American counterpart did not see a great deal of each other after they arrived at Woomera. Sir George's responsibility for the tracking and guidance of the rockets was a heavy one, and he was fully occupied in visiting the tracking stations and checking all the apparatus in the control room. Billy Gillanders was constantly at his chief's side, and the two men worked long hours together.

There was little time for relaxation. Everyone was working at top pressure. The actual site from which launchings took place was several miles from the town and was connected to it by an excellent hard-surface road. A barbed-wire fence surrounded the firing area, which was made up of hangars, work-

shops, storage depots, and the all-important control room. About a half-mile from the control room was the actual firing apron—a flat concrete area on which a number of tall slim shapes had now begun to appear. The first rockets were being finally assembled.

A few days after Benson, Rosenberg, and Boronoff had arrived, Sir Leo Frayling's plane touched down at the Woomera airfield. The chief scientist insisted on taking up his quarters out in the firing area instead of in the town. A couple of rooms in one of the buildings were rigged up for him, though except for sleeping Sir Leo spent little time in them. This cold, forceful scientist discouraged all social contacts, and his relationship with all those under him was on a strictly professional basis. Gillanders found himself detesting Frayling just as cordially as did Sir George and Dr. Rosenberg. No one knew what the Russians thought. Yet British, Americans, and Russians alike deferred to Sir Leo's outstanding ability as a scientist.

"Can't weigh the chap up," Billy confided to Sir George. "Seems all brain and no blood. I don't think he's got anything human about him. No humor, no kindness, never a smile. He's just an efficient machine driving everyone along at a cracking pace."

"He's certainly a peculiar chap," Benson agreed. "Yet he's a first-rate scientist—and he's in over-all charge, remember."

"Oh, he won't let anyone forget that," the Deputy grumbled. "How do the Yanks get on with him?"

"About the same as we do. Rosenberg hasn't much time for him, but his instructions to take all orders from Frayling don't admit of any argument," Benson replied. "So far he hasn't bothered Boronoff very much."

"Well, if we should have any trouble, remember that all our chaps will be one hundred per cent behind you," Billy assured Sir George.

"I know, Billy, I know. But, thanks all the same, we mustn't let personalities enter into this at all."

"How does young Chris get on with him?"

"He's not had much to do with him yet," Benson answered, "but I think Frayling gives him the shivers, too."

"By the way, how did you persuade our young friend to risk his neck a second time?" Gillanders inquired.

"You know what Chris is like. I think he hesitated a little at first, but when I assured him that there would be no more risk this time than before—in fact, less—he agreed to take it on. And of course he's keen to do all he can to help destroy this menace. He hasn't changed a bit, Billy. Plucky as ever, he is," Sir George observed quietly, though with a little knot of worry lurking in the back of his mind.

"Helen and Betty will be thrilled to have him with us again," the Deputy Director smiled. "They still feel they haven't made up for the way they treated Chris when he first came out last time. So he'll be here in the next week or two. I'm eager to see him myself."

Two days after Sir Leo Frayling arrived at Woomera he sent for Boronoff, Benson, and Rosenberg to give them an important briefing. The four men were alone in the long Control Room which would shortly become the nerve center of man's supreme effort to protect himself from the menace from the moon. Three walls of the room were covered with dials, switches, radar, and television screens, together with many other instruments. The four men sat at the table in the center of the room from which the Director usually controlled the firings.

"We shall launch sixteen projectiles with nuclear war heads," Frayling told the others. "They will be dispatched simultaneously when we are sure that the Levy beacon is in position and functioning."

"So many?" Rosenberg questioned.

"We shall leave nothing to chance," the chief scientist answered coldly. "We intend to destroy those structures. Now with regard to other arrangements. We shall assemble two identical rockets, Pathfinder One and Pathfinder Two. This is because experience has shown that some slight last-minute hitch might cause the postponement of a normal firing. Nothing can be allowed to interfere with this launching. Both Pathfinders will be fueled ready for launching, so that if something should happen to prevent the dispatch of the one selected, Godfrey can be transferred to the other within minutes. I shall decide at the last moment which one will be used. Now with regard to technical details . . ."

For the next ten minutes the dry, precise voice of Frayling lectured on, and with each minute the regard the other three had for him as a scientist was increased. His first-class brain, analytical and coldly calculating, left nothing to chance.

"That is all at this stage," Sir Leo concluded, "except for one further thing I wish to say. You gentlemen have an outline of what is to happen. From now on I shall give you instructions separately, and it will not be necessary for you to have any contact with each other except through me. Only for the launching of the Pathfinder shall I require you together. That is all for now, gentlemen."

Next day Frayling requested Dr. Rosenberg to call on him again for further instructions—alone. The American spent more than an hour with the chief scientist. What happened at that meeting none but the two men present ever knew, but at the end of the interview Elton Rosenberg walked out of the control room a shaken man. From that time on he took pains to avoid even an accidental encounter with Sir George Benson.

Day and night work forged ahead. As the critical month of September arrived the number of tall shapes out on the firing apron at the Rocket Establishment increased rapidly. The sixteen armed rockets were to be grouped there in four rows with

four rockets in each row. To accommodate such an armada the apron had been extended by laying down many tons of concrete. Fifty yards were to separate each missile from the next, so the whole array would make up a symmetrical pattern two hundred yards square. About a half-mile away a new apron had been constructed. On this the two Pathfinder rockets were being assembled. The men building the projectiles frequently speculated among themselves about which one would be used—P One or P Two, as they were now called. The two rockets would be identical—almost.

A long cable from Lambert at Farnborough reported to Sir Leo the results of all Christopher's tests. There was nothing further the Aero-Medical Laboratory could do for the youth. To prevent Chris from getting stale, as well as to avoid any bad psychological reaction, the Squadron Leader recommended Chris's immediate transfer to Woomera. Frayling agreed and requested that the youth be flown out at once. Greatrex would accompany him, and Lambert and his team of anesthetists would follow a week later. The chief scientist informed Sir George of Chris's approaching arrival, to his and the Gillanderses' great delight.

Back in England, Chris and his friend Whiskers spent the day before their departure at Norton with Mrs. Ingall and Sylvia Greatrex. When the time came for them to leave, Chris bade his aunt a brave farewell, and the Wing Commander took an affectionate leave of his wife, with many requests to her to take care of herself. The two men drove away from the little shop feeling a trifle depressed. But before many miles had slid under their wheels, they were singing loudly and without tune as they sped along toward London.

Early next morning, with only Lambert to say *au revoir,* Chris and Whiskers boarded the huge aircraft and were soon on their way. As the green fields of England dropped away below them, the youth fell to wondering what might not happen before he saw them again. Then with a shake of his head he

raised his eyes and saw the glint of the sea in the distance. What, he wondered, besides the eagerly anticipated meeting with Sir George and the Gillanders family, had Woomera in store for him?

12

Neither Sir George Benson nor his deputy were able to meet Christopher and the Wing Commander when they arrived at the township's little airfield. Mrs. Gillanders and Betty were there, however, dancing about in excitement as the plane taxied to a standstill. Chris, Betty, Mrs. Gillanders, and Whiskers did a war dance round each other as these four old friends were reunited. Betty happily grabbed Chris's arm and led him off toward their bungalow. It was wonderful to meet each other again after so long. Helen Gillanders and the Wing Commander followed behind them, with Helen inquiring for all the news about Sylvia.

Shortly after the little party reached the Gillanders home, a jeep slithered to a halt outside the door, Billy and Sir George came rushing in, and the happy company was complete. It had been arranged that on this occasion Sir George and Whiskers should stay at the Gillanders bungalow instead of at the Director's bungalow.

While Helen and Betty were clearing away after their meal,

Chris and the Wing Commander brought Sir George and Billy up to date on Chris's tests on the centrifuge and in the "box," and on how the use of an anesthetic had overcome the claustrophobia difficulty. Benson told the newcomers about the rockets P One and P Two, in one of which Chris would make his flight. Greatrex whistled when he heard that all the sixteen atomic rockets were to be launched simultaneously.

"Make a bit of a mess when they get there," was his comment.

"I think that's what's intended," Billy answered dryly.

"You won't have to do much on the flight, Chris," Benson informed the youth, "except, as you know, to transmit readings from the instruments, to make any corrections necessary to the flight path by firing small auxiliary rockets, and—most important of all—to launch the beacon when we tell you. So you see, your free-fall condition shouldn't worry you much. However, we want to fix you up with a few runs in a jet fighter just for you to get the hang of things again, if that's all right with you."

"Oh yes! I enjoyed those flights before. But hasn't a new technique been worked out for producing free fall?" Chris asked, turning to Wing Commander Greatrex.

"Quite right, young feller-me-lad," the officer grinned. "It's been worked out in America, and this is how it operates."

The other three, and particularly Christopher, listened with great interest as Whiskers explained what it was all about.

"As you know," he began, "the condition of weightlessness or zero gravity is exactly the same as free fall. 'Weight' is the sensation set up by resistance to the pull of gravity, and if we don't resist it, we have no apparent weight. If a person in a sealed cabin were dropped from a great height, he, the cabin, and all the objects inside would be falling at the same speed. Thus, neither the observer nor any of the objects would any longer be pressing on the cabin floor and so they would appear to be without weight. Observer and objects would prob-

ably seem to be floating about in the cabin, yet in fact they would all be falling freely together. As you know, Chris, this is just the situation in a rocket after the motors have finished firing and the period of thrust is over. The rocket continues to 'fall' upward and then downward until at last it returns to the atmosphere, which acts as a brake and sets up normal conditions of weight once more. In between those points where the thrust is cut off and atmospheric braking begins, the rocket is in a weightless, or free-fall, condition.

"Now some chaps in America, Fritz and Heinz Haber, have worked out a flight path for a high-speed plane that will produce just those conditions on a much smaller scale. First of all the plane goes into a dive from twenty thousand feet or so at about this angle—" here Greatrex began to sketch on a piece of paper. "Then when it's built up a high speed it pulls out into a climb and the engine is shut off. The plane continues to climb under the momentum that it had, and this continues at a decreasing speed until at last gravity stops it and it starts to dive back to earth. It maintains this fall at an ever-accelerating speed until at a certain height the pilot brings in the engine again and pulls out of the fall. The whole flight path is in the form of a letter 'W' and in the center part of the letter, between the two points, where the engine is cut out and then re-started, everything is completely weightless. Times up to three-quarters of a minute have been obtained."

As the Wing Commander concluded his explanation there was a brief silence. Then the other three raised a good-humored cheer.

"Brilliant!" Billy grinned, clouting Whiskers violently on the back. "I didn't think you had it in you."

"A very clear account," Benson agreed, adding his congratulations.

"Jolly interesting!" Chris agreed. "How did you do it?"

Whiskers blushed and grinned back sheepishly.

"Oh, it's nothing. It was born in me," he answered modestly.

On that, Helen and Betty returned, and the conversation became more general. There was much to talk over and many memories to revive.

Chris soon settled into the routine of the Rocket and Missile Research Establishment. Everyone was most kind to him, which made one little incident that happened two days after his arrival seem very strange. He was going with Billy Gillanders to the small firing apron to have a look at P One and P Two. On the way there they encountered Dr. Rosenberg, whom Chris had already met in England. The youth smiled at the American scientist and held out his hand. It seemed that Rosenberg was deep in thought, for he had not observed the others' approach until Chris stood before him. Then for a moment he stared at the smiling youth with hand outstretched, as if he were seeing a ghost. His face went very pale, and without a word he turned and strode abruptly away. The smile faded from Chris's face and he turned to Billy Gillanders with a puzzled frown.

"What's biting him, I wonder?" Billy asked, equally mystified. Usually Dr. Rosenberg was a most friendly man. Only lately his manner had seem a little strange.

"Must be feeling the strain," the Deputy Director muttered, but this explanation satisfied neither of them.

Christopher gazed at the twin rockets intently. Each of the two tall graceful shapes was surrounded by a mass of scaffolding, and little knots of men were busily at work on them. When completed, each projectile would be seventy feet tall and would consist of three stages. In the nose of each third stage would be a small cabin, and in about three weeks' time Chris himself would have to enter one of them to undertake the most adventurous journey ever made. What would be the outcome of the voyage? Would it result in lifting this scourge from the earth, or would it end in his own obliteration? The

youth felt a chill creep down his spine as the second possibility entered his mind. Then he pushed the thought away from him. Hadn't Uncle George said he would be all right?

Chris noticed that Mr. Gillanders made no attempt to approach the two rockets closely, and he asked why they were not going nearer.

"Instructions from Frayling, I'm afraid," Billy answered grimly. "He says only the Yanks are to go near P One and P Two till he says otherwise. Afraid we'll fall out with them, I guess. Darned silly, I call it."

"What a shame! I'd love to have a look around," Chris observed.

"Oh, you will do that soon. When they've fitted up the cabins, you have to spend some time in one of them to get accustomed to it. Come on, Chris."

Billy led his young friend away toward the large apron where now a miniature forest was rising. The sixteen lethal rockets were all in various stages of assembly, two of them now being complete except for the war head. Mr. Gillanders explained that it was planned to complete the construction of all the missiles except for their arming. All sixteen atomic warheads could be fitted by the Russians inside twenty-four hours, and the plan was for this work to be done immediately after the youth began his voyage.

"Any chance of a rocket detonating accidentally?" the youth asked.

"None. That's been looked after, of course," the Deputy Director assured him. "You see, if one of those war heads did blow up, all the rest would follow, and then there'd be a pretty tidy hole in this part of Australia. No, the mechanism is such that the missiles will be armed by radio long after they have left the earth. Then if one of them does misbehave, no damage will be done."

It was again the Americans who were the most prominent in the operations taking place on the large apron, but here

a number of Britons and Australians were working with them. Neither Billy nor his chief had anything to do with the projectiles at this stage, but soon they would have to fit the delicate apparatus that would first guide the rocket from pulses sent from the earth, and then allow the missile to "home" on the beam from the Levy beacon, once this was picked up. Teams of men in the workshops were already assembling and testing these complicated mechanisms.

"Come for a ride," Billy Gillanders suggested, and he and Chris took one of the numerous jeeps on the area and drove out a couple of miles to some low, flat buildings. Chris could hear the exhausts of several diesel engines and smell the odor of burned oil.

"This is where we're making the liquid oxygen," Billy explained.

Chris knew that for eighteen rockets it would take a tremendous quantity of this intensely cold liquid—more than had been used at any one time before. His guide showed him the huge pumps that first compressed the air until it reached a very high temperature. After it had cooled the pressure was released, causing a further sharp fall in temperature. At the end of the process the air was so cold that the oxygen in it was turned into a liquid, in which form it was stored in heavily insulated underground containers. When the time came, the liquid oxygen would be pumped into special tanker wagons, rushed to the firing apron, and pumped into the rocket tanks. It was a vast and complicated undertaking, and everyone was working under high pressure to have everything ready in time.

Looking at his watch, Billy announced that it was time they were returning home, so the two drove back to the Gillanders bungalow.

Betty Gillanders was pretty, tall, and nineteen. She was keen on dancing and sports was on friendly terms with several of the younger scientists and technicians, but so far had formed

no serious attachment. With Chris she felt a very special relationship, for she had at first treated him badly on his last visit to Woomera. When she had known more about him, she had been filled with remorse, and had tried after Chris's disaster and serious injuries to make up for her behavior. She and Chris had been firm friends ever since, and now she was determined to enjoy his short stay with her family as much as possible.

In the more than eighteen months since Christopher had last seen Betty she had changed so much that he felt extremely shy when they were alone together for the first time. Of course Betty wanted him to be shy, but not too shy, so she tried to set him at ease on every possible occasion. During the first few days after his arrival, Chris spent much of his time talking to Betty and her mother about his life at Cambridge. Soon, however, the subject more or less dried up, and Mrs. Gillanders noticed that whatever it was they began talking about, Chris sooner or later led the conversation back to his forthcoming journey to the moon. At first she paid no particular attention to this, then she tried—unsuccessfully—to avoid it.

"Billy," Helen told her husband one day, "Chris is for everlasting talking about his trip in the rocket. Betty and I have tried to keep the conversation going on other topics, but he always brings it back. Sometimes I get a little worried because I think it's preying on his mind."

"It's only natural, I suppose, that he should think a lot about it, but I agree he oughtn't to dwell on it exclusively. We must watch him closely, Helen," the big Australian said thoughtfully. "It would be disastrous if he became neurotic. Do all you can, will you?"

It was too soon yet for Chris to spend much time on the rocket site, so Helen and Betty set to work with a will to keep him happy. They had a number of parties at their house, and in return Betty and Chris went to several at the homes of friends. Betty spent some time teaching Chris to drive a jeep,

and together they went on a number of pleasant drives. Yet always the topic of his rocket journey would break through, for—try as they might to distract him—it seemed that the thought of what he had to face was never far from Chris's mind.

When the PX-101 jet fighter plane arrived at the little airfield, the Gillanders family were secretly relieved. Here was something that would interest and occupy the youth. It would take his mind off the rocket flight, though it had, of course, a connection with the task that lay ahead. In it Chris was to experience some short spells of weightlessness in the manner described by Wing Commander Greatrex. It was piloted by a young officer of the R.A.A.F. who had done many of these maneuvers, and it was arranged that Chris should have his first flight in the new plane next day.

Soon after six-thirty next morning Chris went to the airfield accompanied by Betty, who insisted on going with him. Sir George and Whiskers drove out together and were both going to stay and watch his first flight. The pilot had the plane ready and was soon helping Chris into a flying suit. Grinning cheerfully, and with a lighthearted wave of the hand, the youth climbed into the plane behind the pilot. Then the cowling was swung down, and Betty could see it being secured from the inside.

"Move back," Wing Commander Greatrex advised, and the little party retreated until they were fifty yards or so from the plane. A gush of black smoke shot out of the two jet engines as the pilot started up. Quickly the smoke was replaced by a pale flame and the deep roar began to give way to a rising whine. Slowly the plane began to move while Betty waved frantically to the hardly recognizable figure of Chris. It seemed but seconds before the aircraft was moving at high speed, then slowly left the ground as the pilot pulled up the nose. Quickly it shrank into the distance, climbing higher and higher. Just before it became to small to see, the plane turned

back toward the airfield. In no time it was streaking overhead, with the pilot making a shallow dive in greeting. The high-pitched whine of the engines sank a few notes as the craft disappeared into the distance. Long after it had gone, Betty could hear the noise of the jets.

"He'll soon be high enough," Greatrex observed to the others. "Then he'll start his dive."

True enough, the sound of the distant engines took on a higher pitch as the pilot commenced the maneuver. Then, before Betty could realize it, she saw the plane diving toward them at a fantastic speed. She held her breath as, quite low, the aircraft pulled out of the dive and began to climb. At the same time a noise like a terrific clap of thunder struck her ears. Then all was strangely silent.

"He's switched off now," the Wing Commander informed them. "They're coasting on the upward leg."

Again the plane shot out of sight, and for a few moments they heard and saw nothing more.

"Why, they're back again," Sir George suddenly said. The plane had approached from an unexpected direction and was even now barely skimming the ground. It touched down and soon began to veer round and taxi toward the three onlookers. Near them the engines died out and the aircraft came to a halt. Betty raced to its side, eagerly waiting for the cowling to be opened. As it swung up, Chris clambered gaily out of the machine.

"How was it?" the girl asked almost before his feet had touched the ground.

"Great!" the youth answered enthusiastically. "We were weightless for over forty seconds. You should try it sometime, Betty."

"Ugh! Not me," the girl laughed. "When are you going again?"

The talk became general, with the Australian pilot joining in.

None of the little group noticed the approach of a worried-looking man until he interrupted their conversation.

"I beg pardon, chief," he said, speaking to Sir George Benson, "but Sir Leo Frayling wishes to see you right away."

"Now?" Sir George asked the man in surprise.

"Yes, sir. At once, he said. I believe it's most urgent."

"All right. I'll come along. See you later," he said to the others as he walked away with the messenger.

When they were out of earshot, the messenger spoke to his companion.

"I don't know what it is, chief," he said, "but the old fossil's hopping mad."

13

"SIT DOWN, BENSON."

The chilly voice of Sir Leo Frayling gave the curt order to Sir George Benson. Silently, but with surprise, the Director took a chair. It was a small room that the two men were in, a room formerly used for stores but now equipped with a table, chairs, and a telephone for Sir Leo's use. The Control Room, normally his headquarters, had been given over to the small army of technicians who were installing masses of additional apparatus.

Benson waited for his chief to speak.

"I've just been informed that you have authorized young Godfrey to make a flight in a PX One-oh-One."

"Correct," Sir George answered briefly.

"Then will you please understand that from now on I will not allow this youth to do anything involving any hazard whatsoever," the chief scientist said coldly.

"I—I don't think I quite follow you," Sir George gasped, wondering if he had heard correctly.

"It's perfectly plain. I will allow Godfrey to take no more risks," Frayling repeated.

Sir George went pale. "May I remind you, Frayling, that Christopher is my responsibility. The flight he has just had in the PX One-oh-One was no joy ride, but part of his training. Only by such flights can he become accustomed to experiencing zero gravity. I have arranged for him to have others."

"Then I shall overrule you and cancel them," Frayling answered icily. "Godfrey, I repeat, must take no more risks."

Benson controlled himself with difficulty. "Frayling," he managed to say evenly, "it is my opinion that the risk of a crash is small, and that Christopher needs the experience."

"I'm not asking your opinion, Benson. I'm telling you that I will not allow it."

"Your concern for Chris's welfare is most touching."

"I haven't the slightest interest in this youth's welfare as a person, but only as an important factor in the task for which I have over-all responsibility," answered Sir Leo. "If anything should happen to him now, the whole project would be ruined. The attempt to destroy the cone would have to be postponed, and this irksome stranglehold on our way of life would be continued. That is why I will allow no more risks."

"Frayling, this is intolerable. I am as fully aware as you of the importance of safeguarding Christopher, but I believe that it is essential for him to get used to zero gravity. That is why I will not accept this outrageous interference. May I remind you that I am Director of this Establishment—not you."

"And may I remind you, Benson, that the British, Russian, and American Governments have placed me in over-all charge of this particular project. Therefore, either you shall carry out my instructions or I will ask for your resignation."

Sir George was speechless at the utter ignorance of the man. Inside he felt a boiling rage. Well, if Frayling wanted war, he should have it. If it became known that he, Benson, had been asked to resign, he knew what would happen. What was it

Billy Gillanders had said? "If we should have any trouble, all our chaps will be one hundred per cent behind you." The Director had not a doubt but that this was the literal truth. Resign, eh? Then every man jack among the British and Australian personnel would resign too. Then where would the precious Sir Leo Frayling be?

Benson was on the point of throwing down the gauntlet, when a thought thrust itself into his head which made him pause. If he and all his staff resigned, what would happen to this vital undertaking, this project that was being awaited so anxiously by all the world? Of course no one was irreplaceable, but it would mean months of delay to recruit technicians and scientists to take their places. Either he had to swallow the indignity, the insult of accepting dictation from this hateful man, or he would have to condemn his fellow men to a continuation of this menacing radiation. Sir George heaved a deep sigh. Alas, his duty was plain. Cost what it might to him personally, he must submit to the will of Sir Leo.

With a tremendous effort to keep the bitterness he felt from his voice, Benson spoke. "Very well, Frayling. It shall be as you say. No more risks for Christopher."

Was there, Benson, wondered, as he turned on his heel and strode out of the room, a gleam of triumph in the chief scientist's eye?

"Sorry, Chris. No more flights."

Chris and Whiskers could scarcely believe Sir George's words. The pale, set face of the Director showed that something had happened in the few minutes he had been away from the airfield. They could see that their friend was terribly upset, so both of them refrained from comment or question. Instead, they and Betty followed Benson silently back to town. When there, Benson excused himself, suggesting to the others that they go along and get a meal. He would see them later.

"Come on, you two," Betty called, anxious to dispel the ten-

sion, "Mother will have a meal ready for us." Chris and his friend, deeply puzzled, went along with Betty.

Work on P One and P Two was proceeding rapidly under the personal supervision of Dr. Rosenberg. The two cabins, with all their instruments, had been assembled in one of the workshops. Now they were being installed in the top stage of the projectiles, and soon Chris would be able to inspect the tiny space in which he was to make his fantastic journey. Finally the outer casing of the third stage would be fitted, and then, except for testing and fueling, the rockets would be ready for take-off.

On the sixteenth of September Sir Leo Frayling requested that Chris have his first look at the cabins. It was arranged for him and Wing Commander Greatrex to meet Dr. Rosenberg, who would explain things to the youth. The American scientist seemed preoccupied and strained. Chris thought that as a result of overwork he was ill, for his explanations and his answers to questions were very short and his manner completely unlike his former genial one. Instead of an enthusiastic description of the remarkable gadgets and pieces of mechanism in the cabin, Dr. Rosenberg gave them only a bare description. It seemed to Chris that the scientist was very uncomfortable all the time he was with them.

Christopher went first into the cabin of P One. To reach it, he had had to climb almost to the top of the scaffolding that surrounded the tall, slim monster. Below, the sleek and shining sides, broken by occasional apertures for fueling, gleamed in the pale sunlight. Only the top casing was missing to complete the projectile's graceful outline. Chris crawled into the cabin, which was about five feet long by slightly less than three feet high. He lay on the flexible contour couch, with knees and head slightly raised, his head and toes almost touching the cabin walls.

Above his head, as he lay on his back, were more than a dozen dials. It was the readings from these that he had to

transmit to the Control Room when the rocket neared the moon. Below the dials were a number of switches, each a different color. These, Dr. Rosenberg said, controlled the auxiliary rockets for steering, the mechanism for releasing and firing the Levy beacon, and the fuel supply to the rocket's top stage. In the center of the switches was a ground-glass panel of about twelve by six inches. On this would appear the image of the moon projected by optical instruments in the extreme tip of the rocket nose. A microphone and speaker, together with inlet valves for oxygen and anesthetic, completed the equipment of the cabin. Chris lay there for some minutes, looking closely at the dials and switches, trying to fix in his memory the purpose of each.

Dr. Rosenberg led his companions to the second Pathfinder rocket, and Chris lay in the cabin of this one also. It was in all ways identical with the cabin of its companion, and as he looked around it Chris wondered which of them he would use. "Good job," he thought, "that I'm not so big as Uncle George or Billy Gillanders. Neither of them could squeeze inside this little space."

When they got back to the control room Sir George told Chris and the Wing Commander that Squadron Leader Lambert and three assistants had arrived and that Sir Leo Frayling had received urgent instructions to return to London for consultations. He would be leaving shortly for about six days and had requested that while he was away Godfrey start on a series of familiarization sessions in the two cabins, both with and without anesthetic. Meanwhile Lambert wanted to make a routine medical check on Chris.

When Sir George came to discuss Chris's further training with Dr. Rosenberg, he again found his colleague strange, almost furtive, in manner. Ignoring this, the program was drawn up for the youth's familiarization sessions. Chris looked forward to the excitement and activity that this entailed, for he found that he was beginning to be a little shaky every

time he allowed himself to think about the job that lay ahead —and that was far too often. So, while an army of the most highly skilled men three nations could produce labored on, Christopher Godfrey began his final training for the effort to save mankind.

First of all, he was given more detailed instructions of the precise course of action he had to follow from the very moment he entered the rocket. Sir George had these typed out for him so that he could learn them by heart. There was no room for any mistake. He learned that when, wearing his G-suit, he entered the rocket to begin this critical undertaking, his first job would be to see that the communication and gas supplies were working. Next he was to secure himself to the couch, when he would be finally sealed in the cabin. Chris already knew that the first few minutes after Frayling, at the prearranged time, had pulled a switch in the Control Room and the rocket vehicle was launched, would be extremely uncomfortable. However, he had been through this high acceleration before and knew that it would not last long. When Control was satisfied that the Pathfinder was well and truly launched, Chris was told, the anesthetic would be fed into the cabin and he would be put to sleep for the long and tedious journey.

He would wake up later to see on his screen a picture that no human being had seen before. In front of him would be a scene of the earth's satellite, the moon, as seen from a distance of only a few thousand miles. Every second it would get larger and clearer as his rocket hurtled toward it. When he had fully recovered consciousness and had become accustomed to his condition, Chris was to start repeating to Control the readings from the various dials above his head. In return, he would receive exact instructions about what to do.

His first task would be to identify that section of the moon's surface toward which the rocket was traveling. Then he would have to make any needed corrections in the rocket's direction

by firing small rockets at its side. When Control was satisfied that he was on the precisely correct course, he would have to wait until the rocket had descended to a predetermined altitude above the moon's surface. Control would then turn the projectile into an elliptic orbit around the moon. At its nearest point it would be over two hundred miles away. After orbiting twice, if the intricate calculations had been correct and all had gone well, the rocket would be at its nearest point to the moon and directly over the domes. Chris was to be ready to dispatch the Levy beacon at the second decided by Control.

The mechanism for launching the beacon was demonstrated to the youth. During the journey to the moon the beacon would be stowed inside the top stage of the rocket below the cabin. This position was to reduce air resistance and to avoid upsetting the dynamics of the projectile on take-off. When he was in orbit, Chris was to press a switch that would cause the beacon to swing outside the rocket into launching position. A large electromagnet would hold it there until Chris was given the signal to fire it. Then it would travel under the power of its own rocket motor, and if there had been no errors in Chris's observations or in the instructions from the ground, the beacon should crash-land close to the cone.

As soon as the beacon was dispatched, Chris was to retract the electromagnet. As he continued in orbit, he was to report if the beacon had landed in position. On that information, the sixteen atomic rockets would be launched. This done, he was to press another switch which would restart the motor of his rocket, break the orbit, and commence the journey back to earth. Then he would again be anesthetized and remain so until the vehicle re-entered the earth's atmosphere. The release of the landing parachutes would be automatic and, after an absence of about five days, Christopher should set foot once more on the earth, his mission completed.

Eagerly the youth read and reread his instructions until he

knew them backward. Then Sir George decided to hold a full-scale rehearsal. Rosenberg informed the Director that Frayling had left instructions for P One to be used for training purposes though, as the two rockets were identical, Chris couldn't see how it mattered which one he was in.

The rehearsal was fixed for September twentieth, and it went off perfectly. Of course the rocket was not launched, and the youth was anesthetized for only thirty minutes at the start and end of the simulated flight. Apart from that, the whole routine was followed as far as a static test would allow. At the end, Sir George expressed himself satisfied that Chris fully understood what he had to do. As far as the youth was concerned, there was nothing to do now but to await the actual launching. At the suggestion of Greatrex, he spent some time studying huge photographs of the moon and absorbing a picture of its features. From his previous experience Chris was already familiar with them, but now he paid particular attention to the area around the domes and cone, the target of all these vast endeavors.

14

THE OFFICIAL CAR deposited Sir Leo Frayling outside Number Ten Downing Street, where the scientist was admitted immediately. Within a few minutes he was ushered into the room where the Cabinet was in session. The Prime Minister and other members of the Cabinet, including Defense Minister Sandford and Mr. Furnival, greeted the man on whom the hopes of millions hung. Without fuss or preamble, Sir Leo gave to the Prime Minister and his colleagues a clear report, a copy of which was sent at once to the American and Russian embassies.

When he had finished and been thanked by Mr. Beaumont, Sir Leo asked the question that had been puzzling him ever since he received the peremptory order to return for consultation. "Now, sir," he said, "may I know the reason for my recall in the midst of the important work I was doing?"

At once the atmosphere in the room, lightened by the interest all had shown in Sir Leo's hopeful words of progress, became again more somber. Several of the Ministers gave un-

easy glances at their leader, who looked nervously at a paper in front of him.

"You have been precise and to the point, Sir Leo," Mr. Beaumont began, "so I will try to be the same. In a nutshell, the radiation from the cone is increasing. Ten days ago our observatories reported a considerable intensification. Now, apart from the effect on X-ray, photographic, and other kinds of apparatus, some very disquieting results have been observed on people. We don't know whether these symptoms result from the steady radiation since it started, or whether they arise from the recent change. There is a great increase in anemia and related ailments. We've had a few cases of blindness, and at least half a dozen cases where brain cells have been destroyed with distressing results. More and more reports are coming in every day—so many that we may now regard this aspect of the situation with even greater gravity than its effect on our power production.

"You will see, Sir Leo, how urgent your task has become. People are once more rapidly approaching the point of panic. This time, because they are affected directly, they are becoming very frightened. I must ask you, therefore, to do everything in your power to destroy this menace as soon as possible. Every day, every hour, every minute saved will make a difference to millions. At any time universal chaos may break loose, bringing the end of civilization as we know it."

As the Prime Minister concluded, his emotion was plain. So, too, was that of his Ministers. Each of them showed some sign of nervous tension, some little twitch or quirk that betrayed the strain under which he was living. Never before had they encountered so much peril; never before had they felt so helpless in the face of a threat. Only the men of science, it seemed, under the leadership of this brilliant man, could hold out any hope of deliverance. Pray God that their efforts would be successful before the world-wide flood of panic broke loose!

Sir Leo seemed the only completely calm person in that room. Yet it was evident from the grave set of his features, that he too was aware of the seriousness of the situation. He studied a typewritten sheet of data passed to him by Mr. Beaumont, and those watching saw him purse his lips as he assessed its significance. Finally he spoke to the waiting Cabinet.

"This information, Sir, is serious indeed. But it does not in any way affect the measures we are taking, except to increase their urgency. I will return to Woomera tomorrow and press forward our work with the utmost speed. If it is possible to bring forward the firing date, this will be done, though factors outside our control, such as the position of the moon and its phase, will affect the exact time of the launching. I will have new computations made at once to see if we can dispatch the Pathfinder before the twenty-ninth."

"Mention of the Pathfinder prompts me to ask about the welfare of young Godfrey," the Prime Minister said. "Is he well? And prepared for his task?"

"Now that we have found a way of overcoming his claustrophobia by the use of an anesthetic, I am of the opinion that Godfrey will be able to fulfill his mission," the chief scientist said. There was a low murmur in the room as these leaders of the nation thought of the heroic part this youth was to play in the effort to destroy the lunar structures. He was, it seemed, just as important to the project as Sir Leo Frayling himself—perhaps more important. Certainly without him the endeavor could never be made.

This thought was still very much in the mind of the Minister of Defense, Mr. Hilary Sandford, as the meeting broke up. Luncheon had been prepared for the Cabinet, and Mr. Sandford found himself sitting next to Sir Leo. The meal was not a very lively affair, each one being weighed down by thoughts about the gravity of the situation. During the restricted and quiet conversation the Minister of Defense took the opportunity of quietly questioning his neighbor.

"This boy, Christopher Godfrey," he said. "He'll come out of it all right, will he? It's a tremendous thing for anyone to do."

"Godfrey will be all right, I believe, at least until he has fulfilled his mission," Frayling replied.

The scientist's reply worried Sandford. "Yes," he persisted, "but what I mean is, has he a good chance of coming through this safe and sound?"

It seemed a long time before Sir Leo spoke. "If you don't mind, Mr. Sandford," he said, "I'd rather not discuss that question now. But if you wish a frank statement, I will give you one privately later on."

"Right. Perhaps, if you've no accommodation fixed up, you'd like to spend the night with me before taking your plane back tomorrow. We can drive down to my place as soon as things are cleared away here."

"Thank you, Mr. Sandford. I shall be pleased to accept your hospitality," Frayling answered.

Some hours later the two men were being driven down to Kent where the Minister of Defense had a pleasant house on the outskirts of London. Before the present emergency Mr. Sandford had frequently taken home one of his colleagues, and his wife always kept a room prepared. Now, however, it had been many weeks since they had entertained, and Sandford privately hoped that their domestic arrangements would be equal to the occasion. As their chauffeur threaded his way skillfully toward the edge of London, Sandford turned toward his companion.

"Now tell me frankly, Sir Leo, what are the prospects for the safe return of Godfrey? I must confess I've been worried about him since he was first drawn into this affair. Something you said then—I can't remember exactly what it was—gave me the impression that his chances are pretty slim. What is your honest opinion?"

The scientist looked at the politician keenly. It was some

seconds before he spoke. "Do you really insist on an answer?" he asked.

"Certainly, Sir Leo. I wish to know the truth."

"Very well then," Frayling said in an even voice. "He has very little chance of getting back to the earth after he has deposited the Levy beacon on the moon. Early in the design of the Pathfinder I decided to introduce a certain amount of lead shielding to protect the occupant of the projectile from any effects of the lunar radiation. The extra weight of this protection reduces almost to the vanishing point the likelihood of sufficient fuel being left for the return journey."

It was some seconds before the full meaning of the scientist's words struck Sandford. When it did, he almost shrank from the man at his side.

"Good God!" he gasped. "So we're sending Godfrey to his death! Does—does he know?"

"No, certainly not. To insure the success of the venture, I have withheld all knowledge of this shielding from everyone except Dr. Rosenberg and a few of his compatriots. Furthermore, I have arranged for Sir George Benson, who is a very close friend of the youth Godfrey, to be kept in complete ignorance of the shielding. By keeping Benson away from the Pathfinder, I have prevented his discovering its presence by accident. Otherwise he would know that enough fuel could not be carried for a return trip, and I fear he might prevent the youth from undertaking the journey." Frayling spoke calmly.

"But it's—it's immoral deliberately to sacrifice this boy. We shall all be murderers," the Minister cried in distress.

"Mr. Sandford, will you please consider the alternative," the scientist said coldly. "Either we carry out this operation, which involves the sacrifice of one relatively unimportant life, or we condemn the whole of the human race to this ever-growing menace. Our duty is obvious."

"It's not so easy as that, Frayling. Surely something can be

done to get the boy back alive? We just can't send him to his death in cold blood."

"It is quite impossible, particularly now that I have heard about this increased radiation. As I indicated, it's a question of the weight of the rocket against the maximum amount of fuel possible. Normally there would have been no difficulty about insuring the return of a pilot, but this radiation has completely changed the situation. For above all, we must make sure that the pilot will not be affected by it during the journey to the moon. The whole project would be ruined if the youth became unable to function by the time he reached the moon.

"Now that the radiation has become more intense, this shielding will have to be increased in thickness and therefore in weight. Briefly, then, the rocket will now most certainly become too heavy for there to be enough fuel left for a return journey. Every pound weight added to the third stage requires two hundred and sixty pounds of fuel to lift it into lunar orbit. The total weight of the shielding will now have to be in the region of five hundred weights, so at least sixty-five tons of propellants will be used to transport the leaded shielding alone. No, I'm afraid it's completely out of the question to get Godfrey back."

As Hilary Sandford listened to the cold logic of the scientist's argument, he became more and more troubled about where his duty lay. Should he pass this information on to the Cabinet and let his colleagues decide whether this human sacrifice should be made? Or should he keep the secret to himself and allow this awful thing to go on in the wider interests of mankind? He remembered the uproar when the Russians launched a dog in Sputnik II. The Minister was sure that if he informed the P.M. of what Frayling had just said, there would be a strong possibility that the Cabinet would react against this cold inhumanity. If the British Government condemned it, it was likely that the Americans would be equally revolted. What should he do?

Steadily the car weaved its way along. The scientist was quite aware of what was going on in Sandford's mind and watched the struggle curiously. For the life of him he couldn't understand why there should be the slightest indecision. Surely there was no comparison between the life of one youth and the welfare of millions. He squirmed with impatience at this muddled thinking and sentimentality. In disgust he stared out of the car window at the traffic and pedestrians. How many of these people, he wondered, would be afflicted physically or mentally in the weeks to come if the man beside him yielded to his squeamishness and had the power to change events by doing so?

The rest of the journey was made in a strained silence. Sandford began to wish heartily that the had not offered hospitality to this inhuman scientist. How glad he was that his wife Alice, despite her severe arthritis, could fulfill the role of hostess with patience and understanding.

Sir Leo, too, began to think that he would have done better to put up for the night in town. It would be tiresome to spend the evening with a muddled politician who still might possibly have the power to destroy all his work for the rescue of mankind.

Mr. Sandford's house was not large, but it had a lovely garden, where often, when wearied by political turmoil, the Minister refreshed himself spiritually by wandering among his flower beds or smoking a pipe in the rustic summerhouse. His wife, too, took great pleasure in the flowers, even though now she must drag herself slowly and painfully around the paths.

Rather formally the Minister of Defense stepped from the car and invited his unwelcome guest into the house to meet his wife.

As they walked up the neat gravel path Mr. Sandford's eyes searched the garden, but his wife was not there. No doubt, he thought, she and their maid Wendy were preparing the evening meal.

"Alice," he called as he let himself in through the front door, "I've brought a guest along with me. Alice, come and meet Sir Leo Frayling."

It was their maid who came quickly to meet them.

"Hello, Wendy," Sandford called. "Where's Mrs. Sandford? I want her to meet my guest."

"Oh, sir," the girl said, paying no attention to the guest, "I'm so glad you've come. Mrs. Sandford is ill and I've put her to bed. She—she—" The girl burst into tears.

"What is it, Wendy?" Hilary Sandford asked, his heart beating rapidly in growing concern. "What's the matter with my wife?"

"She—she can't see!" the girl blurted out. She began to sob.

Without a word to Sir Leo, Hilary Sandford raced up the stairs and straight to their bedroom. His wife lay there quietly, her face turned toward him, and her sightless eyes seeming to look into the past. The stricken man flung himself onto his knees beside the bed and clasped his wife's hand.

It was almost an hour before he remembered the presence of Sir Leo Frayling. With an effort he pulled himself together and went downstairs to seek his guest. He found the scientist quietly reading a book in the library.

"I'm terribly sorry to have left you, Sir Leo," Hilary explained haltingly. "My wife has lost her sight. She—she was already a cripple, you know."

Frayling murmured polite condolences. Under the circumstances, he said, it would obviously be impossible to avail himself of Sandford's invitation. With relief Hilary concurred. All he wanted was to get back to Alice's side. But in spite of his distress, he insisted on accompanying the scientist to the roadway where the car and chauffeur were waiting. The maid had informed the chauffeur of what had happened and he surmised that the guest would insist on returning to London. The maid had also told their guest as well as Mr. Sandford that the doc-

tor had said it was this ghastly radiation from the moon that had robbed Mrs. Sandford of her sight.

"You can have no doubt now, Mr. Sandford," Sir Leo said as he stepped into the car, "that our present course of action is right."

With an effort the Minister turned his agonized eyes on the stony scientist. "For God's sake, Sir Leo, do all you can to save us," he whispered hoarsely.

"Yes," thought Frayling, "when disaster strikes one personally, altruistic motives vanish." And a faint smile came to the scientist's thin lips as he drove away.

15

From the minute Sir Leo Frayling's plane touched down at Woomera airfield the atmosphere became electrical. It was the twenty-fourth of September, and work on all the projectiles was nearing its final stage. Sufficient quantities of liquid oxygen had now been made, but the plant was kept running at full speed to accumulate a reserve and to make up for loss by evaporation. Eight of the lethal rockets were complete, and the remaining eight except for the last stage. P One and P Two stood ready on their apron, lacking only the outer casings for the tips of the rockets covering the cabins. The Control Room was almost ready with its additional instruments, and an electronic computer had been set up in an adjoining room.

The chief scientist immediately called Sir George Benson, Professor Boronoff, and Dr. Elton Rosenberg to a conference, and within a half-hour of his landing the four men were in consultation. First the American scientist gave his report, then Sir George added that the tracking stations were ready

and that in three more days the Control Room would be complete. The Soviet scientist confirmed the readiness of the war heads.

Frayling gave a curt acknowledgment to each, then informed them of the news he had been given in London and his instructions to save every possible minute. He told them that, after checking on the moon's position, he proposed to save two days on the original launching date. The new target for the Pathfinder was five-thirty on the afternoon of September twenty-seventh. The sixteen explosive rockets would, of course, also have their launching time set forward correspondingly. He proposed to allow nothing—*nothing*—to jeopardize these objectives.

"I think I can be ready with a push," Benson said. "How about you, Rosenberg?"

"Going to be a bit of a job," the American answered thoughtfully. "Still, I think we can just make out."

The Russian said the same.

"Work must go on day and night," Frayling cut in. "I propose to call all personnel together, explain the new situation, and ask for volunteers to work all around the clock. I myself will give the lead by ignoring normal regulations, and I shall expect you to do likewise. If insufficient volunteers are forthcoming, then I shall have to direct the men to work, irrespective of their normal working hours."

"I wouldn't do that if I were you," Sir George said mildly. "I think you'll get your volunteers, but if you don't, it would be fatal to coerce the men. It might bring the whole operation to a standstill."

"I did not ask for your advice, Benson," the chief scientist snapped. "Perhaps you will allow me to assess the situation. Oh, and one other thing. As a precautionary measure, young Godfrey must be quartered in Control."

"He won't like that," observed Benson.

"I'm not interested in whether he likes it or not. The Con-

trol Room is of heavy concrete; it's the only place we can be absolutely sure about. We cannot take any risk of his becoming affected by radiation," Sir Leo said. "Please get word to all personnel to assemble on the Pathfinder apron in one hour's time."

Rosenberg, Boronoff, and Benson rose to go, but Frayling motioned Rosenberg to remain. "You know what this heavier radiation means?" the chief scientist asked as soon as the others had left.

"Thicker shielding?"

"Precisely. Increase it by twenty-five per cent."

"Whew! We shall have a job to get the rocket off the ground," Rosenberg exclaimed.

"Please don't exaggerate. We shall still be able to get into the lunar orbit, though the margin will be much narrower. You can line the P Two casing in time?"

"I guess so, but I feel mighty mean about——"

"No time for sentiment, Rosenberg. You have your instructions, for which I accept full responsibility."

"Sure," sighed the American, "but I have to meet the boys."

Chris certainly wasn't very pleased when Sir George told him of Frayling's instructions that he was to stay in Control. He had found life with the Gillanderses pleasant, and their company had helped to tick away the hours.

Along with the Wing Commander Chris attended the meeting on the Pathfinder apron. Over four hundred men formed a remarkably silent crowd there as a jeep with the four leaders in it clattered up. Using the vehicle as a platform, Sir Leo Frayling addressed the assembly. In his usual precise phrases he described the new situation as given to him in London, and the urgent request to speed up the launchings. In careful language, which was all the more impressive because of its complete lack of anything theatrical, the chief scientist outlined the consequences of delay. He concluded by inviting vol-

unteers to work around the clock. Only by so doing, he told them, could the new target dates be met.

When he had finished speaking, there was a long, uncomfortable silence, as the men thought of the strain on themselves. A low murmur ran through the crowd as the leaders waited tensely for their response. Then slowly Sir George got to his feet and stood alongside Sir Leo. With considerably more emotion than the chief scientist, he appealed to the men to think of the service they would be doing to men, women, and children all over the earth, including their own families. He informed them that Sir Leo Frayling himself had been the first volunteer, and that he, Rosenberg, and Boronoff would also ignore normal conditions of work. It was the American leader, however, who finally swayed the gathering by pointing out that their task was as nothing compared with that being so cheerfully undertaken by young Christopher Godfrey.

At the sound of his name the youth flushed uncomfortably, and his embarrassment was increased when somewhere at the back a cheer, rapidly taken up all around, broke out. From then on, the issue was not in doubt. Every man agreed, cost what it might, to see that the rockets were fired on the new dates. With the nearest approach to feeling anyone had seen, Sir Leo thanked them all. He then gave a few crisp instructions, and the meeting was over.

Back in the Control Room Chris felt the new spirit of urgency everywhere. It was arranged that he should have a camp bed there and that Whiskers should stay with him. He soon found it would be impossible to sleep in the main room under the glaring lights and amid the many hurrying technicians, and so one of the small rooms Sir Leo had used was turned over to him. As the tempo increased, Chris found himself spending more time watching the assembling of the fascinating array of instruments. Often the Wing Commander almost had to force the youth into his own room for a few hours of sleep. Some of his time Chris spent with Mrs. Gillanders and

Betty, playing tennis or going for long walks. In this way Greatrex saw that the youth was kept fit and well.

September twenty-sixth—one day to go. As if to emphasize the urgency of their task, seven of the technicians and scientists working throughout the night had fallen ill. Their trouble, it was suspected, came from the sinister lunar rays. The wife of a technician who lived in the center of the town was also afflicted. Everyone was now at the battlefront, with the men of Woomera leading the counterattack. Some of them remembered vividly the similar spirit of resolve, brotherhood, and self-sacrifice that had animated the people of London during the terrible air raids of the last war. Now, as then, everyone took courage from his brother, with gallant deeds and hard labor becoming the order of the day.

Christopher Godfrey often felt the weight of great responsibility. All this activity around him would be wasted if he failed in his job; all the hopes of the world would be dashed if he fell short of his task. Such thoughts, rather than fear for his own safety, filled his mind to an increasing extent. He had now developed the habit of looking frequently at his watch and, try as he might, he could not resist the almost hypnotic attraction that the little dial had for his eyes. Thirty-one hours to go.

Squadron Leader Lambert and old Whiskers, keeping an unobstrusive eye on him, began to feel a little worried. It was essential for Chris to enter the rocket the next day one hundred per cent fit, not only physically but mentally. Any neuroses might make him temperamentally unstable at the critical moment. They must do all in their power to keep the boy happy and cheerful.

Soon another thought began to worry Christopher. Which of the two rockets would he be using? Both were almost ready, with only the outer casing round the cabin of P Two not yet in position. When he asked his Uncle George, the Director was unable to tell him. Frayling had said he would delay a

decision until an hour before take-off. Both rockets were to be fueled and made ready. Both would have a Levy beacon loaded inside. Whichever rocket was decided on, it would be ready to take-off at the scheduled time. Perhaps, thought Chris, the chief scientist will spin a coin to decide!

Sir George Benson, his own task now completed, decided to spend as much as possible of the last twenty-four hours with young Chris. They had not seen too much of each other since the youth's arrival at Woomera, for the complicated arrangements for tracking this unprecedented number of missiles over a longer distance than ever before had occupied the Director's full time. Now he felt an overpowering desire to be with his young friend, whom he must have seemed to be neglecting. Chris was delighted when Sir George suggested that the two of them go off for a picnic that afternoon. It would be their last opportunity to be alone together before zero hour.

Requisitioning one of the jeeps, Benson collected Chris from the Control Room and then called round at the Gillanders bungalow, where Helen had an appetizing lunch ready, packed in a basket. With light hearts—so they tried to make each other believe—the two friends drove away into the desert. The country around the Rocket Establishment could hardly be called attractive, yet neither of them had come to admire the scenery. It was enough just to be together this last day before Chris's critical journey.

With forced lightness they chatted to each other. As the scientist drove along, he teased his young companion about Betty, and in return the youth asked his friend why he had never married. With sincerity and without restraint the two talked together, and it did both of them good. Gradually the tensions they had been feeling began to relax. By the time Benson decided they had driven far enough, the gaiety of their conversation was no longer assumed.

They stopped the jeep in the shadow of a huge outcrop of

rock, and Chris unpacked the basket with keen anticipation. He was not disappointed. The picnic Mrs. Gillanders had prepared was one of the nicest possible, and both Chris and his Uncle George ate like hungry schoolboys. When they had finished, they sat for a while before going back to the jeep.

Since Chris's father and mother had been killed in an accident when he was very young, he had known little adult male companiship until he had met Sir George. The attachment between them had been immeasurably strengthened during Christopher's ghastly experience two years before. It was his earnest hope and ambition one day to be as nearly as possible like the fine man at his side.

"Penny for your thoughts, Chris," Benson laughed.

Chris smiled, but he would not say what had been running through his mind. Instead he began to talk of his plans for the remainder of his time at Cambridge and of his burning desire to devote his life to rocket research, just as his Uncle George was doing.

"You've made a pretty good start already," Benson remarked. "In another week's time you'll be able to say your experience with rockets is unique. You'll be the first human to have seen the other side of the moon." Sir George smiled.

Chris was suddenly serious.

"Look, Uncle George," he said. "Just what is the risk? I'd much rather know what chance I have of getting back all right. You do think it will be all right, don't you?"

"Christopher," Benson replied earnestly. "I give you my word that I believe you've every chance of getting back safely, barring accidents, of course."

"Oh, I know there's always that chance. I don't mind that risk."

"Then you've nothing to worry about. I tell you, Chris, that in five or six days' time we'll have you back safe on old Mother Earth."

"That's good enough for me, Uncle George. I'll face anything if you say so. Shall we get back now?"

16

THE CRITICAL DAY had dawned. September twenty-seventh. Chris had slept well. Although he didn't know it, Squadron Leader Lambert had given him a sedative the night before. Now he was feeling fine, with his heart beating perhaps just a little faster than normal. Whiskers took him over to the Gillanders bungalow, where he bade Betty and her mother a gay *au revoir*. They told him they had plans for the biggest party ever to be held in Woomera soon after his return. With a cheery wave of the hand Chris left and was driven back to Control.

Here all was calm, but it was a calmness that barely masked an almost intolerable tension. During the last few hours more of the staff had succumbed to the strain and to radiation. What the effect had been on the town, they didn't know. The weary red-rimmed eyes, the unshaven chins, the sunken cheeks, bore witness to the pressure under which all had been working during the last few days. Only Sir Leo Frayling seemed completely unaffected, though he had worked as hard as any of them. Both the rockets were fueled and ready. While Benson

and Chris had been on their picnic, the outer casing had been fixed to P Two, and the two Pathfinders had received their final polish. As the day wore on, there was much speculation about whether Sir Leo would use P One or P Two. Dr. Rosenberg alone did not speculate. He knew.

At about one-thirty, Chris had a light lunch. This, he knew, would be the last food he would have until he got back to the earth. Each of the cabins was fitted with the tubes of glucose that had proved so helpful at the time of the tests at Farnborough. When Chris had finished his lunch, Sir Leo Frayling came in, along with Sir George. Chris was asked to repeat his instructions, and the chief scientist was satisfied that the youth understood perfectly what he had to do. As the two men went away, Benson promised to return before take-off. Then Whiskers insisted that Chris lie on his camp bed and try to relax. The gallant Wing Commander concealed his own natural anxiety with a breezy torrent of conversation that diverted and amused his young friend.

It was four-thirty when Benson returned.

"Frayling has just decided you're going up in the P Two," he told Chris. "How are you feeling?"

"Bit shaky, but otherwise fine," the youth answered cheerfully. "When do we move?"

The Director glanced at his watch.

"In about ten minutes, Chris, so stay where you are for a little longer. Er—Chris—" with an uncomfortable glance at Greatrex—"you remember what we did last time? Would you like a little prayer again?"

"Of course, Uncle George. Whiskers can join us," Chris answered, sliding off the bed.

"Ready, Chris?"

The youth nodded silently. This was it.

With the two men he walked steadily from the small room into Control. About fifty men, each one in front of his in-

struments, filled the long concrete structure. As the little procession moved toward the outer door, there were many cheery expressions and wishes for good luck from the scientists and technical men. Chris, his heart thumping rather more than he liked, wouldn't trust himself to speak, but he smiled his thanks to these men whom he had come to know. Past the center table they walked, and Chris saw the firing switch that would ignite the rocket motor and launch him upon his fantastic errand. Where were Sir Leo and Dr. Rosenberg? Everyone else seemed to be in the Control Room. Strange that they were missing.

Outside, a slight breeze was blowing. Chris gratefully took a few deep, cool breaths, for during the last few minutes he had found the headquarters building becoming uncomfortably stuffy. Squadron Leader Lambert was waiting to shake the youth's hand warmly. Then, with Sir George and Whiskers, Chris strode purposefully toward the firing apron. With intense interest he fixed his gaze on P Two, now that he knew this was to be his rocket. A little knot of men were waiting at the foot of the tall shining projectile and quite a few more were giving it last-minute touches from different parts of the scaffolding.

There was a brief conference at the foot of the rocket, then one of the men produced a weird-looking object—Chris's G-suit. With willing assistance from the technicians around, the youth climbed carefully into the suit. At a nod from Sir George Benson, Chris led the way up the scaffolding steps toward the top of the rocket. There Billy Gillanders was waiting to help him into the cabin and to see that he was correctly secured to the contour couch. Chris's grin was far more cheerful than his real feelings warranted.

At five-ten the youth was settled in the small cabin. All the straps holding him down were firmly secured, the oxygen and anesthetic supplies were working perfectly, and now Control was testing communications. It was Sir Leo Frayling's voice asking the youth to describe what was going on around him

so he could be sure that the radio was working perfectly. Sir George, Whiskers, and Billy Gillanders now leaned inside the cabin in turn to have a word with its occupant. Then, with a cheery gesture from Chris, Benson gave the signal for the hatch to be secured, and Chris's last view of the outside world was blotted out.

Before he had time to begin thinking about his situation, the loudspeaker crackled, and Frayling's cold voice sounded clearly in the enclosed space.

"It is now five-twenty P.M., Godfrey. The scaffolding outside is being removed, and all personnel will return to Control. I shall now call out the time at one-minute intervals until five-twenty-nine P.M., then at five-second intervals except for the last ten seconds, which will be counted off one at a time. Do you understand?"

"Yes, thank you, sir."

For the life of him, Chris couldn't help the dislike he felt when he heard Sir Leo's voice. Thank goodness, it would be Uncle George who would take over communications immediately after take-off!

"Nine minutes."

Keep calm. He must keep calm. After all, he'd been up in a rocket before, and soon it would be quite a common thing to do. Besides, it would be all right. Hadn't Uncle George, the man whom he respected more than anyone, assured him so?

"Eight minutes."

Aunt Mary would be getting his last letter in a day or two. He expected there'd be one from her waiting when he got back. Good of Mrs. Greatrex to stay with her. Still, they were no doubt doing a good turn for each other. Old Whiskers would have hated leaving his wife on her own for so long.

"Seven minutes."

How strange it was to think of the boisterous Wing Commander as a father! Poor old Whiskers would find life very different when he had a family to look after. It would be

funny to see him pushing a baby carriage. Yet Mrs. Greatrex would have to watch he didn't spoil the baby, whether it was a boy or girl.

"Six minutes."

Gracious, how time was passing! Uncle George and the others should be back in Control now, and the firing apron would be deserted. P Two would be standing there alone except for her sister P One, waiting for the signal to start the most important journey ever planned. All the men in Control would be at their instruments, and Sir Leo would be sitting at the center table with his eyes fixed on the red second hand of the Control Room clock.

"Five minutes."

Gosh, that minute went quickly! It would be a good job when the rocket was launched. Even with every possible precaution, he knew it was still a fairly risky moment. That was why everyone had to take cover during a launching. Occassionally rockets exploded instead of rising majestically amid a cloud of steam and flame. What would P Two do?

"Four minutes."

Sir George Benson, followed by Mr. Gillanders and the Wing Commander, quietly entered the long room. Everyone was waiting tensely as the seconds ticked by. The Director whispered a few words to Frayling, who nodded silently in reply. Then he walked to a section of the huge instrument panel devoted to tracking the flight of the P Two. He put on earphones and in a low voice spoke into a microphone to all the tracking stations linked by radio and standing by. Quickly all the stations identified themselves and confirmed that all was well.

"Three minutes."

Sir George took off the earphones and walked back to the center table. Without realizing what he was doing, he walked on his toes as if he were in church. The whole atmosphere of

the Control Room was taut with the growing strain. More than one man was wiping away perspiration not caused by temperature. Not a word was spoken except for the time counts of Sir Leo.

"Two minutes."

"Can I have just a word with him?" Benson whispered to the chief scientist. Without replying Frayling nodded toward the microphone on the table. Sir George bent over until his mouth was near the instrument.

"Christopher, I'm back in Control now. How are you feeling?"

There was a pause of a second or so, then a rather strained voice came back for all to hear.

"I—I'm all right, thank you. I'll be glad when I'm off. You'll be speaking to me then, will you?"

"Yes. I'll be taking over the mike from Sir Leo after take-off. Now relax, Chris. You're going to be all right."

"Okay, Uncle George. I'll try."

Sir Leo Frayling spoke again into the microphone.

"One minute."

"Cheerio, Chris! Chins up," Benson called.

"Chins up," came back the youth's reply.

"Fifty-five seconds."

Chins up? Chris didn't feel very much like that just now, but he mustn't let the world know. He'd keep silent now in case his voice gave the show away.

"Fifty seconds."

"Forty-five."

"Forty."

Gosh, it's getting warm in this cabin! Hope the oxygen supply hasn't stopped. No, that's the valve hissing as the gas comes in.

"Thirty-five."

"Thirty."

Time was going jolly quickly now. Should he hold his breath till he was launched?

"Twenty-five."

"Twenty."

"Fifteen."

Sir Leo didn't sound bothered. After all, he wasn't in any danger.

"Ten seconds."

Wonder what would happen if he begged them to stop?

"Nine."

Not that he could, of course.

"Eight, seven, six, five, four."

This is it.

"Three. Two. One."

"Please, God, keep me safe."

"FIRE!"

"Oh, God!"

Chris didn't know, but he had spoken the last words of his thoughts aloud.

"Oh, God!"

Simultaneously Sir Leo Frayling gave the critical order and pressed the fateful switch. It was a moment that no one in that Control Room would ever forget. As the youth's last agonized syllables sounded clearly, many of them muttered a silent prayer. Then those who could, crowded around the large television screen. They could see P Two standing there. Was it going to be a misfire?

For a second or so after the chief scientist pressed the vital switch nothing happened. Then a cloud of smoke and steam rose from the base of the towering monster and a light-blue tongue of flame roared out. Suddenly the whole structure moved—lifted itself up on that dazzling pillar of flame. The wave of noise that struck the Control Room made the whole building vibrate. Observers saw the rocket rising higher and higher. Now the picture on the television screen changed as

the projectile lifted itself out of the first camera's field of view and another camera took over.

Faster and faster. Some of the men hurried to the door, now that the rocket was away. By the time they were outside, P Two was high in the sky and getting smaller every second. Both the men outside and inside the building heaved sighs of relief. At least the rocket was away without mishap. Would it follow the flight path that had been worked out so carefully?

Unaware that he had cried out aloud, Chris lay on the contour couch as he heard Sir Leo Frayling's final call. Quivering in every fiber, he waited. What would happen now? Would he be blown to powder in the next split second, or would the rocket begin its upward flight? Despite the heavy padding on the couch, Chris felt the cabin start to shudder. Then this stopped, and he felt himself pressed down into the couch. So the rocket had taken off, and he was leaving the earth.

As he'd expected, he had a painful time now, for as the projectile rose with ever-increasing velocity, he was pressed down heavily onto the couch. Chris knew that in order to obtain the best results the rocket was designed to burn up its fuel and build up a high speed as quickly as possible. This was more economical than a slow acceleration, which would mean having to carry a heavy fuel load on part of the journey. His training on the centrifuge came in useful, and he kept calm despite the great discomfort. Vainly he tried to lift an arm; it felt like lead and he was unable to move it. His breathing was difficult and he found it impossible to speak. Thanks to the specially designed G-suit he didn't feel too bad inside. Yet he would be heartily glad when this trying time was over.

The loudspeaker had been silent since Sir Leo had pressed the switch. Now it crackled to life and the welcome voice of Uncle George came through.

"Hope you're all right, Chris. I know you can't reply yet, but you've made a good take-off and you're going well."

Sir George Benson rose from the microphone and walked over to the television screen. Telescopic lenses on the camera outside were still picking up the rocket, though every second it was becoming smaller. Soon it would be out of visual range altogether, and then the radar would come into action. Frayling, his job for the moment done, was conversing at one end of the room with a strangely uncomfortable Rosenberg. Occasionally the two men glanced toward Benson, who stood watching the tiny speck of the rocket finally disappear from the screen. Then the Director walked along the rows of instruments and dials that registered the height, speed, direction, fuel consumption, and much other data about the distant projectile. He seemed satisfied with all the readings except perhaps that of the altitude, which was a shade on the low side. Back at the table Sir George again spoke a few reassuring words into the microphone, but there was still no reply.

At one set of switches Squadron Leader Lambert and his two assistants were sitting. Frayling broke away from his conversation with the American and walked across to the Squadron Leader.

"How soon can you give Godfrey the anesthetic?" he demanded. Lambert looked up at him in surprise.

"Not until the acceleration is over," he replied.

"Why not? I want him to have it as soon as possible."

"I'm sorry, Sir Leo, but it would be dangerous for Christopher to be given anesthesia while he is still having difficulty in breathing because of the acceleration," the Squadron Leader replied firmly.

"Then he's to have it the very second he's in free fall," Frayling snapped as he turned abruptly away.

Christopher was now becoming more used to the heavy pull on his body. He knew from past experience that it was better to relax and not struggle against the overpowering force that was pinning him down onto the couch. His eyes even seemed

to be pressed back into his head. He gave up the painful attempt to keep them open. How long would this have to go on? Ten minutes perhaps?

After what seemed an age there was a momentary easing of the terrific pressure, then back it was again as bad as ever.

"First stage gone," Chris thought to himself. He knew that as soon as all its fuel had been exhausted, the first and largest stage of the rocket would separate from the two remaining ones and fall back to the earth. The slight pause he had felt was when the motors of the second stage roared into life and took up the thrust. Experimentally Chris tried his vocal muscles again. Still he couldn't speak, though this time he did manage to utter a strangled sound.

The tracking stations now began to come in with their reports. Readings from them were correlated, and the result was passed on to the Director at the central table. In front of him was a huge graph. On it was a red line showing the height he had calculated the rocket should be at every given point of time. As the data were passed over to him, Benson drew in a black line showing actual altitude of the rocket.

He was worried. The black line was falling below the red one. At first he was not too concerned, but as report after report came in, he saw that the distance between the red and black lines was widening. Billy Gillanders, sensing that something was disturbing his chief, walked over from his radar screen to the table. Silently Benson indicated the graph and the tell-tale divergence of the two lines. Billy whistled his dismay. This might be serious.

"First stage out," someone called. "Second stage in."

So the lower part of the rocket was burned out and falling back. Perhaps the loss of altitude would be stopped now that the second stage had taken over. Sir George and Billy anxiously waited for the next reading.

Just then a sound came over the loudspeaker. It was Chris,

trying out his vocal chords. Anyway, the boy was all right. Benson stopped to speak into the microphone cheerful words of encouragement. He must at all costs prevent Chris from suspecting how worried he was about the rocket's performance. After his few words to Chris the Director turned again to the graph. A new report had just come in, giving the first data about the second stage. Quickly Benson marked the altitude and completed the black line. Billy and he bent over the chart together in their anxiety. The rocket was still falling behind, and now there was quite a wide gap between the two lines. What on earth was happening? Sir George asked himself feverishly. Quickly he checked all his figures, but he found no error. Keeping away from the microphone, he asked Billy to fetch Sir Leo at once.

Sir George marked a still later reading, then picked up the chart and carried it well away from the table. He didn't want to switch off the mike in case Chris wondered what was happening. This must be discussed with Frayling, for it was clear that something was seriously wrong. In a moment the chief scientist stood at his side.

"Well, Benson?" he queried.

"Look at this," the Director answered, holding the graph in front of the other. "P Two is not making the required altitude. It will barely get into orbit."

For a moment Frayling looked intently at Sir George.

"Come with me," he ordered curtly.

Benson handed the chart over to Billy to continue and walked quickly after Sir Leo. In the little room where Chris had been sleeping, Frayling stopped and waited for the Director. Benson saw that Dr. Rosenberg, pale and tense, was already there. Frayling reached behind him and closed the door. Then he faced Sir George squarely.

"Benson," he said evenly, "there is nothing wrong with P Two. It is functioning exactly as I expected."

"You don't know what you're talking about," the Director

said angrily. "That rocket is losing thirty per cent height and velocity."

"No. P Two cannot follow the path you have plotted. It has been modified, and it is exactly on the new trajectory," Frayling stated coldly.

The Director felt the blood drain from his face. Something about the human icicle before him set up a cold chill of fear in his heart. If—if the rocket did not follow the path he had planned, what would happen to Chris? Desperately Benson faced Sir Leo.

"What the blazes do you mean?" he demanded, yet dreading to hear the answer.

"Calm yourself, Benson. The position is simple," the chief scientist replied dispassionately. "I instructed Rosenberg to modify the cabin of P Two by adding lead shielding. The additional weight is responsible for the reduced performance."

"My God!" Sir George whispered. "There won't be enough fuel to bring him back."

"Exactly. That is why Rosenberg was forbidden to have contact with you, and also why you have been deliberately kept in ignorance about this modification. Only P Two had the shielded cabin."

Benson's face was working pitifully as his mind tried to grasp this evil thing. Chris! Chris couldn't get back. That was all he seemed capable of understanding.

"Damned sorry about this, Benson." Dr. Rosenberg had been standing by silently, his face pale and drawn. Now he spoke for the first time. How he had hated playing this dirty trick on a well-liked and respected colleague! Yet his instructions and their reason had permitted no argument. Somewhere, somehow, he'd have to try and explain to Benson.

"But why? Why?" Benson demanded.

"I decided this lead shielding must be introduced to avoid any risk of Godfrey's being affected by the radiation before he was able to complete his mission. After the radiation increased,

the lead had to be thickened. Otherwise we should have had your young friend reaching the moon in an unfit condition," Sir Leo explained. "That is the reason I've not allowed you near the Pathfinders. I feared you would prevent Godfrey from going."

"And now there is insufficient fuel for this extra-heavy rocket to make the round trip. You—you've sent Chris to his death," Sir George said, grinding his teeth in gathering fury. "You've deliberately sacrificed this decent, brave youngster in cold blood. Frayling, you're a damned murderer. You—"

"Steady, Benson." Rosenberg stepped between them, for Sir George had taken a menacing step toward the chief scientist. "This won't alter things, you know."

With a supreme effort the Director controlled himself. His eyes, full of blazing anger and dislike, bored into Frayling. How he would have loved to smash that cold, merciless face to a shapeless pulp! Yet, as Rosenberg said, that would not help Chris. But he had told the youth he would be all right. Chris had volunteered to go because he'd had infinite faith in his Uncle George's judgment. It was inconceivable that the youngster would have been foolhardy enough to have gone unless he'd believed those assurances that he'd be safe. And so he would have been if Frayling hadn't introduced this heavy shielding. There would have been ample fuel for a safe journey back. "What a fool I've been," Sir George thought bitterly, "to let this inhuman monster deceive me!" He took several deep breaths, and the menace faded from his face.

"You cannot be expected to give an unbiased judgment on this, Benson," Sir Leo said, "but let me explain how I assessed the problem. On the one hand there was the life of one youth. On the other there was the welfare of millions, and perhaps the future existence of the whole human race. The choice was obvious. Godfrey must fulfill his mission even though it costs his life." Sir Leo paused for a moment, then added, "I regret

that I had to deceive a colleague, but the destruction of the cone is the only thing that matters to me."

The Director felt the burning anger within him evaporate. In its place came a sickness of the soul that was as heavy as lead. His tall figure sagged in utter despair, for he knew that no power on earth could save the life of his young friend. Worse still, he was the one who had misled Chris, innocently enough, into taking on this fatal task which he had described as relatively safe. Well—what should he do now? Maybe the only thing was to do all in his power to see that Christopher's life would not be thrown away in vain.

Sir George turned and staggered rather than walked toward the door that led into the Control Room.

17

WHILE HIS CHIEF WAS in the little room with Frayling and Rosenberg, Billy Gillanders took over the mike on the table. The readings coming in still showed that the second stage of P Two was traveling more slowly than it should. By now, the rocket should have been many miles higher than it actually was. Billy hoped that Sir George would have some explanation when he came back from his conference with that cold fish and the American.

"Second stage out. Third in," came the call from one of the men on duty. The final stage of the projectile was now speeding on alone, carrying its human burden ever farther into heretofore unfathomable space.

Wing Commander Greatrex now realized that there was something very wrong. He had seen the worry, first on Sir George's face, and then on Billy's. Then he had witnessed the little scene between Benson and the chief scientist after which they had disappeared into the little room where Dr. Rosenberg, Greatrex knew, already was. The Wing Com-

mander's questioning look drew Gillanders from the mike. "P Two is not rising as it should," Billy told Greatrex in a low voice. "Something's gone wrong."

"Is it serious?" Whiskers inquired gravely.

"Very. At this rate the projectile will use all the fuel in getting there. I doubt whether there'll be any left for the return journey."

The Wing Commander's jaw dropped.

"But—but Chris is finished then?" he gasped.

"Seems like it, unless they've cooked up something in there. Here they are. We'll know in a minute."

As the three scientists came out of the small room, the eyes of Billy and Whiskers went anxiously to Sir George's face. Their hearts sank, for it was gray and hopeless, as they had never seen it before. Silently the three men—Frayling, Benson, and Rosenberg—studied the reports that had come in while they had been in the little room. Benson and Rosenberg seemed utterly depressed. Only Frayling appeared unconcerned.

"It's following my predicted path exactly," he said evenly to the other two. "The new cut-out point will be this," and he indicated a reading on the chart, which he marked with a neat cross. Benson and Rosenberg knew what he meant—that when P Two had reached the height and speed he had indicated, the rocket motor of the final stage would be cut off by remote control and the projectile would coast the remainder of its path under the momentum it had built up.

"I will give the order when to cut," Sir Leo said. The other two made no comment, but Billy saw the spasm of mental anguish that passed over the face of his chief. Though nothing had been said openly, there were few of the men in the Control Room who had not sensed that something was wrong. One glance at Sir George Benson's face was enough to confirm their suspicions. What could have gone wrong? None of the men bending over their dials and recorders knew precisely

when the cut-out should have come, but surely it should have been before this.

"I shall give the signal when to cut out the motor," Frayling said to the technician who was to operate the switch. The man nodded silently, puzzled, for he had understood that the Director was to give the order. Nearby, Squadron Leader Lambert was ready to switch on the anesthetic as soon as the rocket was in free fall. He looked questioningly at Benson and Frayling as the seconds ticked on.

"If you wish, you may make a statement to the men as soon as Godfrey is under the anesthetic," Sir Leo murmured to the Director. Sir George nodded silently. Yes, it was only right that his staff should know what had happened. Only Chris must be kept in ignorance!

"Cut!"

The chief scientist, who had been studying a number of the dials, snapped out the order. Immediately the technician in charge pulled over the switch, cutting off the motor in the projectile. All listened for a sound from the loudspeaker, as Chris should now be able to talk intelligently.

"Whew! That's better!"

The youth's words rather startled them in Control, they were so clear and cheerful. Benson, making a great effort to keep his voice steady, spoke into the microphone, asking Chris a series of questions about how he had fared during the acceleration. Chris, obviously in high spirits at having surmounted his first obstacle so successfully, assured Sir George that it hadn't been too bad. Benson thanked God that Christopher couldn't see him. They were, he felt, deliberately sending him to an unimaginable death. Never again, the Director was sure, would he know a moment of peace.

Frayling stood by, unaffected. At a signal from him, Squadron Leader Lambert sent out the impulse that would open the anesthetic valve in the faraway rocket. His eyes were fixed on

the meter that would record the composition of the cabin's atmosphere.

"We've turned the gas on now, Chris," Sir George said. "Take it easy. The radio will be on all the time."

"I'm all right. I'll call you up from the moon," the youth answered lightly.

"Start counting, Chris. We'd like to know when you go under," the Director requested.

"Shall I count sheep or goats?" the irrepressible youth's voice came back.

The sound of it cut Benson like a knife. "Just count, Chris," he answered with a quiver in his voice.

"Right, then here goes. One—two—three—four—five."

Everyone in Control was listening intently to the doomed youth's voice as he counted on. It was getting slower now.

"Twenty-five—twenty-six—twen—twenty-seven—twenny-ay—ay—eight." Then it stopped.

"He's gone," Squadron Leader Lambert announced.

"Thank God!" Sir George Benson breathed. Then, raising his voice for all to hear, he called, "Attention, please, everyone. I have an announcement to make about the rocket flight. Listen carefully everyone, please."

A few minutes earlier, in the tiny cabin hundreds of miles up in the black abyss of space, Chris still lay pinned down to the contour couch by the terrific acceleration of the second stage. Several times he tried to speak, but his jaw muscles were still beyond his control. It was Gillanders' voice that he could hear now over the radio. Uncle George must have been called away. Chris hoped he'd be back soon, for there was nothing like Uncle George's voice to give him confidence. Oh, that was the second stage gone. He'd felt the momentary slackening in the force that was holding him down, and he'd heard someone in Control call out that the third-stage motor had now cut in. Well, it wouldn't be long now before they would be

shutting off the fuel and letting the rocket speed along under its own momentum. He would be much more comfortable then.

For a little time now no one had spoken to him from the Control Room, though he could hear faint background noise and voices which the sensitive microphone picked up. One voice he recognized was that of Sir Leo Frayling, who seemed to be giving instructions. What was that? Sir Leo was to order the cut-out? Well, it was all the same to him, but he'd be glad to hear Uncle George's voice again. Jolly long wait for Frayling's order, or perhaps it only seemed long. Anyhow, ah, there it was! The chief scientist's command sounded clearly in the cabin, and like magic, all the terrible drag suddenly vanished. Chris was in free fall. He could move again.

"Whew! That's better!" Chris breathed in relief. Good job that awful pull was over.

"Hello, Chris," the loudspeaker called.

Thank goodness, that was Uncle George's voice. Suddenly, after the great discomfort he'd had since take-off, the youth felt quite gay, perhaps a little intoxicated. Maybe it was the effect of the strange physical condition that made him want to laugh and joke. Or possibly it was reaction following his recent physical and mental strain. He answered the Director's questions seriously enough, but his restraint was rapidly breaking down.

"I'll call you up from the moon," Chris had almost giggled.

"Start counting, Chris," Uncle George had said after the anesthetic had been turned on. What a chance to play a splendid joke on them! He'd count all right, and then pretend he'd gone off. How startled they'd all be in Control when he called to them long after they thought he'd been unconscious! He couldn't resist a crack about whether he was to count sheep or goats before he started to count.

"One—two—three—four—five."

He would have to let his voice trail off gradually to make

them think he was falling under the anesthetic. It would be a lark to eavesdrop on the conversations down in Control.

"Twenty-five—twenty-six—twen—twenty-seven—twenny-ay—ay—eight," Chris counted, enjoying himself hugely. "That ought to do it," he thought, letting his voice tail off.

"He's gone," the youth heard Squadron Leader Lambert announce.

"Thank God," he heard Uncle George say. Funny that he sounded so relieved. Well, he'd jump out of his skin in a few minutes, dear old Uncle George.

"Attention, please, everyone," Chris clearly heard Benson call. "I have an announcement to make about the rocket flight. Listen carefully everyone, please."

This was going to be good. Uncle George sounded as if he were going to let out a top secret, now that he thought the youth in the rocket could no longer hear. What fun to be able to chaff him about it when he returned! Chris was beginning to get a slight singing noise in his ears from the anesthetic. He mustn't let himself go under until he'd heard all that Uncle George had to say, Chris told himself. Ah, he was speaking again.

"I think you should all know," Sir George was saying, "that neither the rocket P Two nor Christopher, its passenger, can ever get back to the earth. The fuel has already been almost exhausted. There is certainly not enough left to bring P Two back."

The words fell on Chris's ears in that tiny little cabin, but at first they did not register. He was still thinking about the joke he would have on them when he got back. When he got back? What was that Uncle George had said about getting back? Heavens, the singing in his ears was getting louder! He mustn't go under. He didn't want to go under. Get back? The P Two could never get back? Uncle George had told them in Control that he, Chris, could never return to the earth? But—Uncle George—had said—all along he'd said—that—he—he'd

—be—he'd be—all right. Why had—Uncle George—said he'd —never—never—?

The anesthetic had won. Christopher was unconscious. His bewildered brain was working no more.

A sharp gasp of horror escaped from twoscore throats as the Director made his tragic announcement. Most of the men had guessed that something was wrong, but never had they dreamed that young Chris had been deliberately sent to his death. Sensing their reaction, Sir George hurried on:

"I myself, like all of you, was unaware of this until a few moments ago when Sir Leo Frayling informed me that on his instructions a lead shielding was fitted around the cabin of P Two. This extra weight will have used an extra sixty-five tons of fuel to reach the lunar orbit—fuel that was to have been used for the return journey. I—I can say no more."

Benson's voice choked into silence. His face looked ghastly. Billy and Whiskers instinctively moved toward their friend, for it seemed as if he were about to faint. With a gesture he stopped them.

Now Sir Leo Frayling spoke. In his usual lecture-room manner he explained the reason for the shielding and why he had decided on it, weighing the life of one youth against the welfare of millions. Quite fairly Sir Leo said that his was the sole responsibility for the decision, and that he had deliberately withheld the information from Benson. He now requested the staff to resume their occupations, sparing no effort to insure the success of this vital undertaking.

The chief scientist's words, exonerating Sir George Benson from all responsibility for sending Christopher to his doom, were reproduced in the rocket cabin more than a thousand miles away in space. But no one heard them there, for young Godfrey lay silent and still on the contour couch. Deeply anesthetized, every second he was speeding farther away from the earth he would see no more.

18

Wing Commander Greatrex had often heard it said that the hair of some person or other had gone gray in a night because of a mental or emotional crisis. He had never believed it, but now he wasn't so sure. During the two days that followed the rocket firing he saw a tragic change in his old friend Sir George Benson. It was clear that the Director was performing his duties only by the exercise of an iron will. His eyes were red from lack of sleep, his face was lined and gray, and Whiskers was certain that there were more light streaks in his dark hair than before.

During those two days Sir George had scarcely been away from the Control Room. When someone had been able to persuade him to try to get some sleep, it had proved useless. He could neither rest nor eat. Constantly his mind dwelt on Chris, whom he would never see again. What would be the end of this youth of whom he had grown so fond? Would he guess that the return to earth was impossible? What would he do if he learned the truth?

Benson knew that the batteries operating the radio from the rocket would work for many days. In his tortured mind the Director could hear his young friend's frantic pleas for help pouring in over the loudspeaker. He could imagine the calls getting weaker and more garbled as the hours slipped by, ending finally—perhaps days later—with animal sounds as reason departed. It would be far better, once Chris's job was done, to pump in the anesthetic and put him quickly into a sleep from which he would never awake.

All the youth's friends were badly affected, particularly Whiskers and Billy Gillanders. Sir Leo had suggested, and it had been mutually agreed, not to mention the situation to anyone outside the Control Room. All the outside world knew was that the launching had been successfully made, and that Pathfinder Two, with its human cargo, was faithfully following its flight path. So far everything had gone exactly as planned by Sir Leo, but a critical period was approaching as the rocket drew nearer the moon. Soon it would be time to revive Christopher so that he could begin the delicate operation of placing the Levy beacon in position.

Sir George forced himself to study the reports coming in from the different stations, including several in America and Britain that had been set up to follow the projectile when the moon was below the Australian horizon. According to his calculations, confirmed by Sir Leo and Billy Gillanders, P Two was now just over twenty thousand miles from the surface of the moon. In another thirty minutes or so Squadron Leader Lambert would begin changing the cabin's atmosphere, for the youth must be allowed plenty of time to revive. Throughout the two days that he had been unconscious, his pulse and respirations had been watched carefully on the dials in Control, thanks to telemetry. He seemed perfectly normal, and should be in good health and spirits when he revived.

As the time drew nearer for Chris's awakening, every one of the Control personnel began to feel the strain. Soon they

would be listening to the youth whom they had sent on an errand of death. Then would begin the Great Deception, for obviously the person most concerned could not be told the truth.

"Any time now," Sir George Benson called across to the Squadron Leader, indicating that he might start sending out the impulse that would cut off the anesthetic and gradually increase the oxygen content of the cabin. Lambert leaned forward and threw over a switch. Then he studied the meters in front of him intently. Benson, Frayling, Billy, and Whiskers all came and stood behind him, waiting for his report on the changing atmosphere.

"The oxygen content is rising all right," Lambert murmured, his eyes glued to the instrument panel before him. "Perhaps in another ten minutes—" he concluded, and everyone knew what he meant.

Anxiously Sir George stood by, awaiting events. What would Chris say when he came round? He must never suspect that things were not normal. His confidence must be maintained at all costs. It would take a tremendous effort to talk with cheerful assurance, but he owed at least that much to Christopher.

"He should be awake at any moment now," the Squadron Leader informed them. "His rates of breathing and heartbeat have gone up to the consciousness level. I'd suggest calling him periodically."

Sir George Benson went over to the microphone.

"Can you hear me, Chris? Are you awake yet? Are you feeling all right? Everything's gone fine so far," he called.

There was no reply. In another five minutes he repeated the words, but again all was silent. Lambert was looking a bit puzzled, for his instruments showed that Chris should now be quite conscious. Why did he not reply? At intervals for the next fifteen minutes the Director repeated his message over the radio, but there was no answer. Benson and the others were

now thoroughly alarmed. Frayling showed his concern—concern for the project.

"Chris! Chris, can you hear me?" Sir George kept repeating, but there was no response.

The figure on the couch, unrecognizable in the ponderous G-suit, was lying quite still. Only the very lightest respiration proved that Chris was still alive, but as the proportion of oxygen in the cabin's atmosphere continued to rise, the youth's breathing became deeper and stronger. His face, too, began to lose its pallor as the blood circulated more strongly in his veins. After a few minutes there was a slight flutter of one eyelid, then of both. A little later the youth seemed to take an extra deep breath, which he let out slowly, like a sigh. Suddenly his eyes opened and he stared blankly ahead. For a minute or so the vacant expression remained. Then it changed as memory came back and the wheels of thought began to turn once more.

"I'm—still alive! I must be near the moon! I—I can't get back." Soundlessly the youth mouthed the words that came pouring into his mind. "Neither the rocket P Two nor Christopher, its passenger, can ever get back to the earth." It was Uncle George's voice he could hear saying those fateful words—words spoken when no one knew he was listening.

So Uncle George—even Uncle George—had deceived him! How many times he had been assured he'd be all right, yet all the time they must have known that this was not true, and that he'd never get back! Yes, even the great Sir George Benson—Uncle George whom he had loved and admired so much—had deceived and tricked him into making this one-way journey. The anger, despair, and fear which crowded into his mind were submerged by the searingly painful realization of Uncle George's duplicity. The hero whom he had worshiped for so long had feet of clay. What was the use of anything if there was no one to whom you could look up? They had all

deceived him. Why then should he do what they wanted? Why, when afterward they would have no more use for him but to write him off like a month-old newspaper?

"Can you hear me, Chris? Are you awake yet?"

It was the voice of Sir George Benson—Uncle George, whose deceit had hurt him most. In his mood of black despair and complete disillusionment, Chris found it difficult to answer. Why should he answer after all that had happened? And as for placing down the Levy beacon, well, he'd let them stew first. Then they would know—Sir George Benson as well as the others—that their neat little plan to use him hadn't come off.

"Are you all right? Everything's gone fine so far."

Chris squirmed at the hypocritical concern in Sir George Benson's voice, and at his false assurance that everything was going fine. Fine, maybe, for the folks safe in Control, but not so fine for him. No, he would not answer. Let them worry about the success of their precious scheme.

Again and again Sir George Benson's voice called him urgently, but the youth remained stubbornly silent. He might as well crash into the moon as circle round it forever. He'd give Control no assistance in calling out the readings from the dials above him.

"Chris! Chris, can you hear me?"

A thought struck the youth. Perhaps, after all he would speak. He would let them know that he had heard all about their plot, then he'd tell them that he didn't intend to cooperate. That would set them in a flutter—Sir George Benson, Sir Leo Frayling, and all of them. Chris reached for one of the tubes of glucose and placed the end between his parched lips. The sweet, cool liquid tasted good. Now he could speak.

"Yes. I can hear you," the youth said, his voice sounding strange and harsh. "You might as well know that I heard your announcement that I can never get back. Yet all along you'd been telling me I'd be all right. It was a dirty trick. I—I've

finished with all of you," he concluded with a sob, which he could not control.

In the Control Room Chris's words caused utter consternation. Sir George Benson gasped and staggered as he realized the full import of what the youth had said. Chris had heard him say the rocket could never return. Chris believed that he, his Uncle George, had deliberately misled him. Then Chris couldn't have heard the rest of his announcement or Sir Leo's, which had followed. Chris thought that he, his Uncle George, had deceived him with false assurances and had knowingly sent him to his death. Never to see his young friend again was bad enough, but for Chris to think this of him was unendurable. Someone pushed a seat under the stricken scientist, fearing he would collapse in his great anguish.

Sir Leo Frayling stepped up to the microphone. Everyone in the room listened tensely to the drama being played out before them.

"Godfrey," the chief scientist was saying, "you must pull yourself together. You have a job to do that can save the world. We had to put shielding around your cabin to keep you from the effects of the radiation until you had dispatched the beacon. Unfortunately under these circumstances the rocket could not hold enough fuel to make the double journey. Now remember, you have a duty to do. You will start giving us the dial readings at once. There is no time to lose."

"Why should I?" the voice of Christopher came back bitterly. "I'm not going to dispatch your precious beacon."

"Are you mad? Have you lost your courage?" Frayling called back in exasperation.

"I—I'm not mad," the voice from the loudspeaker replied. "And I think I've still got some courage left. But you've all played me a dirty trick, so I'm through."

The chief scientist knew that he was up against it. Unless this youth could be persuaded to cooperate, even though it

did cost his own miserable life, all his own work, and plans, and scheming would be utterly wasted.

"Benson," Sir Leo shouted, "see if you can persuade this young fool to do his duty and let us have those readings."

Sir George looked up wearily from his seat.

"Frayling," he said in a dull monotonous voice, "At this moment I don't care two pins whether Chris does his duty or not. All that matters to me is that he should know I didn't deceive him. I can't tell him. Someone else must."

Sir Leo turned impatiently away from the Director. He was about to pour another torrent of commands into the microphone when Wing Commander Greatrex, obviously laboring under strong emotion, came forward and roughly thrust the chief scientist away from the mike.

"Chris, this is Whiskers," he almost croaked into the mike. "Get this straight, young feller-me-lad. Neither Benny, nor Billy Gillanders, nor I knew about this shielding in the P Two till after you'd taken off. Frayling, here, is solely responsible, and I'm going to get him to confirm this, even if I have to break his blithering neck to do it."

As the Wing Commander, his face set and grim, turned toward the indignant Frayling, Chris, up in that speeding rocket, listened wonderingly. What—what if Uncle George really hadn't known? It would make the world of difference to him.

With an apprehensive glance at the Wing Commander's fiercely bristling mustache, Sir Leo swallowed hard and stepped up to the mike. "I don't see that this matters, Godfrey," he said, "but it's quite correct. It was my responsibility only. Benson was not informed in case he became a little squeamish. Now are you satisfied?"

Satisfied? Then—then Uncle George didn't know. That made things much better! Chris found himself choking with relief. Still, that didn't alter the fact that they—well, Frayling—had sent him on this voyage in the full knowledge that—

oh, it didn't bear thinking about. Why should he help Frayling?

"You will start transmitting the data to us?" Sir Leo asked impatiently. "You are getting very near the point for transfer into orbit."

"No," the voice of the youth came back faintly in the Control Room. "Better to crash and end it all quickly. Can I speak to—Uncle George?"

Benson, face wet with perspiration, forced himself to speak.

"Hello, Chris. Is—is it all right now?" he asked lamely.

"Hello, Uncle George. I'm sorry I thought—you know! But I'm not going to send off the beacon, tell Sir Leo."

The Director squirmed in his seat in sheer agony. What could he say to the youth? What advice should he give him? Was it his duty to try to persuade Chris to cooperate? Sadly, he decided that it was.

"Chris," he called into the mike, "will you please help with the beacon? I can guess how you feel, but there are millions of people depending on you. If you don't—well, it can't help matters now. But, son, if you do, you'll earn everyone's gratitude, and mine."

The youth, rushing every second nearer to the moon, was moved by the Director's appeal. After all, he owed something to Uncle George to make up for even having thought him capable of playing a dirty trick. Perhaps he should do what was asked of him. But one great question in his mind must be settled before he could decide.

"I would like to ask you something, Uncle George," the youth's voice said over the radio. "If you had known all you know now, would you have asked me to undertake this job?"

Sir George, who had felt a little better since he had been exonerated, was staggered at this direct question. All eyes in the Control Room were focused on his haggard face. It was a long time before he replied. When he did so, it was in such

a low voice that even those standing near him could scarcely hear his words.

"Yes, Chris, I should. And I know you would have done it," he almost whispered.

A great surge of pleasure filled the heart of the doomed and lonely youth. Uncle George had paid him the greatest possible compliment. Even if he had known that it would cost his life, Sir George would have asked him to go, knowing that he was the person best fitted to do so, and he had rightly guessed his response. Had not the youth of each generation, Chris thought, willingly sacrificed themselves in the defense of their fellows? He remembered the thrilling accounts he had read of the heroic deeds of soldiers, sailors, and airmen in the last war. Had not his own friend, Wing Commander Greatrex, gaily risked his life every day in combat with the enemy? Why should he, Christopher Godfrey, typical of the young people of this day, be more of a coward than those young men? He'd do his heroic deed, the youth decided in a surge of exaltation, even though for him it meant the end.

"I'm ready," he called back over the radio.

In the Control Room the atmosphere had been electric. Everything had depended on Christopher's answer. More than one of the men pictured the heartbreaking task it would be to start from the beginning again, even if they could succeed in getting an acceptable volunteer. Now that the youth was ready to carry on, a flood of relief and of pride swept over them. Sir George Benson shut his eyes for a moment, perhaps to murmur a silent prayer. Billy and Whiskers looked at each other with proud sadness. Was there even a softening in the austere lines of Sir Leo Frayling's face?

19

"SWITCH ON YOUR SCREEN and start your readings," Sir George Benson requested with forced briskness. The vital job of placing the beacon had to be done. For the moment it was better to concentrate on this task and push all thoughts of the future out of one's mind.

Chris, his decision taken, was likewise determined to resist any morbid ideas. He welcomed the Director's instructions and turned eagerly to comply. Reaching up above his head, he pulled down a switch and then looked at the glass screen. In a few seconds blurred shapes appeared on it, soon to focus into the weirdest scene ever witnessed by human eyes.

The rocket was now about three thousand miles from the moon. The section of its surface that filled the screen was a picture of indescribable chaos. Familiar as he was with the main features of the lunar surface, Chris was at first unable to recognize the jagged range of mountains and the jumble of craters toward which he was speeding. Even the largest earthly telescopes, hampered as they were by the earth's atmos-

phere and dust, could never reveal a picture such as this. In perfect clarity the rugged scene with its long black mountain shadows, its strange white streaks, its incredible confusion of craters, appeared in the little rectangle above his head.

In spite of his situation Chris found himself filled with wonderment and speculation—wonderment at the strange unearthly shapes that seemed like the scenes from some nightmare, speculation as to how these weird formations had been created. He knew how fiercely the controversy raged between those who believed that the craters were caused by the impact of meteors and those who held that they were of volcanic origin. He had been inclined to accept the meteor-impact theory, and during the long hours when he had studied the landscape of the moon had developed his own particular variation of it.

One great difficulty the meteoric-theory followers had was accounting for the central peaks in most of the craters, and why many of these craters appeared in more or less straight lines, or chains. Neither had they ever satisfactorily explained why several of these chains were made of craters of decreasing size, and why, where two of them overlapped, the wall of the smaller crater always broke into that of its larger companion, indicating that it had been made later.

Chris's private theory was that when the moon was still in a plastic and resilient state huge meteors had struck it, forming the larger craters. These meteors had buried themselves below the moon's surface, only to be explosively ejected, trailing behind them lunar material to form the central peaks. When the meteors fell back under the moon's gravity, they would strike with reduced energy and so form smaller craters; these, if close enough, would be partly imposed on their larger companions. The chains he believed, were formed by the repetition of this process several times until finally the meteors remained buried just below the surface of the last crater.

Chris had never passed on this private theory to anyone else.

Now he supposed he never would unless, he thought, he might fill some of those last hours by talking about it to Uncle George. Meanwhile the voice of the Director came in again, gently urging him to transmit the readings of the dials.

Tearing his eyes away from the fascinating picture on the glass screen, Chris switched his mind from speculation so that he could concentrate on his task. Clearly and without emotion he read off the various dials in the cabin, so that Control could work out his exact height and speed. Each reading was repeated back to him over the radio by Sir George; this checking continued for some minutes.

"Righto, Chris," the Director called back at last. "We've got you plotted exactly. In about a couple of minutes we shall be starting up the motor again and commencing the turn into orbit. Let us know as soon as you recognize any lunar landmarks."

Chris had been a little puzzled that he had not been able to pick out on his screen any of the lunar features with which he was familiar. Then he had realized that he might be looking at part of the moon never seen from the earth, or at least not head-on, as he was looking at it now. Once he started to circle around the moon, no doubt he would soon get his bearings.

That vibration would be the rocket-motor firing. Ah, now he must be turning. He felt a definite pull to one side, and a number of articles which had been floating around the cabin were now all pressed against the casing at one end. The picture began to slide across the glass screen, and different craters and mountains swam into view. Chris looked closely to find some familiar feature. Several times he thought he recognized one of the characteristic circular depressions, but they looked very different from any photograph he'd ever seen.

This terrific range of mountains that was just coming onto his screen—surely it must be either the Apennines, the Carpathians, or the Caucasus? And this huge crater? Archimedes, surely! Yes, that was it. Chris felt a surge of excitement as he

identified his position. In a few minutes he was absolutely sure, for that crater over on the right must be another well-known landmark, the crater Autolycus. Quickly he informed Control that he had recognized his position and would continue to describe his progress over the lunar surface.

Chris's excitement at having found his bearings communicated itself to the staff in the Control Room. As he described with certainty the landmarks over which he was passing, a pointer was moved over a large lunar map in much the same way that aircraft are plotted in Air Traffic Control. Sir George Benson, speaking words of encouragement, was more than thankful that Chris's mind was now so fully occupied with his observations. Even Sir Leo Frayling expressed his satisfaction at Godfrey's reports.

Now Christopher's observations came in thick and fast. He gave readings from the dials as the rocket continued to lose height, but his main preoccupation was the shifting picture on the glass screen. Would he pass close enough to get a glimpse of his objective, the strange, menacing structures near the mountain called Pico? No, not on this circuit. With a feeling of disappointment Chris saw that the domes and cone would be too far to the left to appear on his screen. No doubt from the information he had given them Control would put that matter right before he had completed his first orbit. Meanwhile there was soon to be the exciting prospect of observing the other side of the moon, a sight no human being had ever seen.

Once more conditions inside the little cabin had become weightless as the turning movement into an orbit had been completed. Now the motor was again cut out as the rocket swung along in its great ellipse. Chris's eyes were glued to the screen in front of him as well-known features, seen as never before, moved across the face of the glass. Thousands of craters, many following in the chain pattern, littered the surface below him. Scarcely a square yard seemed flat and smooth. "It will

be difficult for the first space ship to find a landing strip," the youth mused.

Every second his eyes opened upon new wonders. Many of the craters and mountains over which he was now passing seemed both strange and familiar, since from the earth they could be seen only from a very oblique angle, and he was passing directly overhead. Within minutes the last feature he could identify crossed his screen. Now strange new mountains appeared and pock-marked plains which no one had ever seen before. It was all rather frightening—this new vista of confusion and grandeur, and Chris found it difficult to discover words to describe it. Disturbingly, the radio had now become very faint, for the rocket was moving rapidly over that part of the moon always turned away from the earth. Nevertheless Chris did manage to transmit a few more dial readings before the radio faded away altogether.

From the lengthening shadows cast by the mountains and crater rims, Chris knew that he would soon be passing into a realm of darkness and silence, out of sight of both sun and earth. Fortunately this period would not last long, and he would soon be able to speak to Control once more. Every few minutes he called out over the radio, but there was no reply. Then at last came a faint sound, which grew more distinct. At the same time Chris began to see the moon's surface in faint ghostly forms on his screen. For a moment he was puzzled, then he remembered that the surface below him was being illuminated by earthlight—sunlight reflected by the earth.

Now the radio was at full strength once more, but Chris, being still on the strange side of the earth's satellite, had no familiar landmark by which to plot the rocket's course. Instead, he tried to give a word picture of the scene below him, knowing that his words would be recorded and would intrigue astronomers the world over. In a short time the rocket had traveled forward into the sunrise, and below him Christopher

recognized the famous crater Tycho. Fast as he was traveling, it took the better part of a minute to traverse this gigantic circle, perhaps the most notable lunar feature of all, and one of the most visible from the earth.

Down in Control the crucial moment had come to make the final corrections to the rocket's orbit. From the readings and observations that were now coming in from Chris, a small team, with the help of the electronic computer, worked out the maneuver to achieve the desired path. Two short bursts from the rocket motor and the scientists in the Control Room expressed themselves as satisfied. The orbit that Chris was now following should soon bring him directly over the isolated mountain peak called Pico, at the foot of which was the objective. The present circuit would be used to check the position accurately, for in following its elliptic path the rocket would be receding from the moon's surface. Next time around, however, it should be at the minimum distance—a mere ten miles—when passing over Pico.

In the excitement of his task Christopher was giving no thought to what lay ahead. All his attention was absorbed by the unbelievable scene below and the necessity of concentrating on accurate reporting. As the rocket sped farther from the moon the youth watched anxiously for the towering mass of Pico. Was that it, far over to the right? No, that was Piton, a similar peak and a near neighbor. Chris's heart gave a leap as, dead on the screen's center line, the object of his search appeared. There, too, as he expected from the photographs, were those strange alien shapes nestling close by. His hoarse voice described the scene to an intently listening Control.

Somehow—perhaps it was his imagination—Chris thought he felt a strange sensation in his head as he passed over those mysterious and menacing structures. He wondered if he would have succumbed to the intense radiation emitted from the cone had he not been protected by Sir Leo Frayling's shielding. An inexplicable wave of fear seized him, and he was glad in-

deed to be getting farther away every second. Automatically he continued his reports, and Sir George Benson kept up the replies. But as the rocket started to traverse the distant face of the moon, Sir Leo Frayling took over the microphone and spoke to Christopher.

"Your orbit has now been precisely adjusted," the chief scientist said. "The Levy beacon is to be launched at your next approach. You will be passing over the cone at an altitude of approximately ten miles. The objective should move down the center line of your screen. If it should appear on either side it may be necessary to make several more circuits, for there will not be time to make a lateral adjustment before the cone reaches the firing point on your screen. Our calculations show that you must press the launching button at the precise moment the target is at the intersection of the center line and the 'H' crossline. Is that quite clear, Godfrey?"

"Yes, sir, I understand," Chris answered. He was determined to fulfill his part of the job as perfectly as possible. Then when—well—when he was no more, no one could say he'd muffed it.

Down in the Control Room Frayling handed the microphone back to Sir George. The technicians bending over their instruments, the observers at the tracking stations, the men standing by the sixteen atomic rockets, all were keyed up to high pitch as the climax of this great endeavor drew near. Benson, Gillanders, Greatrex, all betrayed the strain they were feeling. Even the chief scientist was now beginning to show a most un-Frayling-like nervousness. Only the youth in the tiny cabin remained calm.

Soon earthlight and sunlight would begin to show, and then would draw near with breathless speed the moment that was to be the culmination of Christopher Godfrey's existence, the instant for which it seemed his life had been planned, the act that was to ring down the final curtain on his being. Let it be a grand finale, thought the youth, perfectly performed, pre-

cise and accurate in its execution. It should write "The End" with a flourish on the last page of the slim volume of his life.

As soon as he was in the area of sunlight, with the many well-known features skimming past beneath him, Chris began the final preparations for launching the Levy beacon. A pressed switch caused the side of the rocket to open and the little projectile to swing out, still tightly in the grasp of the huge electromagnet. In shape it was similar to its parent rocket, except that it had a large bulbous nose, which was the actual beacon. Roughly it was about the size of the cabin Chris was in, or the size the cabin would be if it were detached from the rest of the rocket. A green light on the panel above, repeated in the Control Room a quarter of a million miles away, indicated that the beacon was correctly positioned and ready to fire.

Now Chris concentrated on the glass screen, watching the various craters marching down past the various crosslines. Would the cone be on the center line, or would it be necessary to make another approach? As the orbit of the rocket came nearer to the surface, the lunar landscape appeared ever more clearly. In spite of the tight grip on himself and a fierce determination to keep calm, Chris's heart began to beat a little faster as he neared the critical region. His eyes were rigidly fixed on the center line at the top of the screen where, he hoped, the cone would finally appear.

Apart from the carefully suppressed turmoil within him, Chris now began to have that peculiar feeling in his head again. It was as if the alien beings responsible for that evil radiation were making a supreme effort to incapacitate its attacker. As the rocket sped nearer, Chris had to make a very great effort to focus his thoughts and to keep his attention on the screen. His eyes became heavy and it was difficult to resist closing them. Perspiration dampened his whole body, so concentrated was his effort to retain his faculties for the critical moment.

Christopher actually shouted with relief as Pico and its attendant structures swam on to his screen, dead under the center line. So he could make the firing on this approach! Quickly pressing the switch that primed the beacon's motor, the youth informed Control of the correctness of its calculations, and excitement in that building mounted painfully. Now the cone had moved down the center line to the "B" crossline, now to the "C." His finger on the firing switch, Chris held his breath. A wave of nausea struck the youth; when it had passed, he felt quite detached from his surroundings. It was as if he were observing the scene from outside his body, as if his mind were being sucked away from him. With a supreme effort he recaptured his faculties and forced his attention back to the screen.

The cone had just passed the "G" line. He must hold on a few seconds more; he must retain control of his senses for just a brief period, so that he could launch that beacon. In an agony of mental effort Christopher fought the overpowering temptation to let his mind drift away. If it did, he felt that it would never return and that the beacon would not be fired.

Another second. Now another. The cone was almost on the "H" line. Oh, God grant that he could hold out! Another second. Ah, there it was! Convulsively he pressed the firing button. A split second later he felt the lurch of the rocket as the Levy beacon tore away to its destination. Then blackness engulfed him.

20

For the last few minutes all had been silent in Control. Far away in that tiny cabin a youth was making a supreme effort to perform his vital task, and there was nothing anyone could do to help him. Would he succeed in placing the beacon down accurately, or would he fail? Wherever the beacon landed, the atomic rockets would be drawn to it. If it was more than four miles from the cone, then the rockets would explode harmlessly, or at least destruction of the cone could not be guaranteed.

Everyone was listening intently to the loudspeaker. Sir George Benson had put on a pair of earphones so that he could pick up even the faintest sound made in that cabin. As the critical moment approached, the Director could hear the struggling youth's gasps and heavy breathing as he fought to retain consciousness until the beacon had been launched. Benson did not dare to speak, lest his words distract the youth from making his supreme mental effort. The Director and the others could only listen to the distressing sounds in an agony

of helpless silence. Any second now the beacon must be launched or the projectile would have overshot the mark and be speeding away from the target area. Could Chris do it?

"Beacon away!" the man watching a certain instrument yelled out. There was a hubbub all around the room. Well, at least the Levy beacon had been launched. The question now was: had it landed near the cone? Urgently the Director spoke into the microphone, but the only sound from Chris was the little sigh he made when consciousness left him. His main task finished, the youth could help them no longer, and Control must decide from its own observations whether or not he had succeeded.

Within less than three minutes the tracking stations started coming in. They were picking up the beacon's radiation, so it had landed and was functioning. Carefully Sir Leo Frayling studied the reports from widely scattered points, but it was impossible to decide with certainty whether or not the beacon was within the prescribed distance. The chief scientist must then make this, the most vital decision of his life, on his own responsibility. Should he order the atomic rockets to be fired, or should he conserve this terrific accumulation of explosive for a future occasion?

"Prepare to launch!"

Sir Leo had made his decision, and he gave his order in clear, ringing tones. So be it! The complicated procedure for firing the sixteen projectiles was set in motion. Scores of men out on the firing apron swung into action as they received the fateful command. Final checks were made on fuel tanks, war heads, guidance systems, and countless other details. In Control the staff prepared for the mass take-off. Complicated calculations need not be made at every stage of this operation, for soon after they were launched the sixteen deadly missiles would speed along, automatically guided toward wherever the Levy beacon had landed. Every ounce of fuel they carried

could be used to build up velocity, so their journey would be much quicker than that of P Two. In a little over thirty hours after take-off, a most tremendous man-made explosion should take place on the moon. Would mankind be freed—for the time being, at least—from the ghastly menace of alien minds?

While all around him men were engaged on their various tasks, Sir George Benson persisted in trying to contact Christopher. Repeatedly he called the youth's name and strained his ears for any response. It was in vain. At last Benson sadly removed the earphones. Chris must be unconscious. He couldn't be dead, for the Director had detected the faint sounds of respiration. Perhaps he'd—yes, that must be it—he'd succumbed to the lunar radiation. Well, perhaps it was a mercy. Now it would no longer be necessary to put him to sleep forever by means of the anesthetic. The moon had done the job, and Christopher would wake no more.

Everything was ready for dispatch of the sixteen lethal rockets on their journey of destruction. As Sir George Benson seemed preoccupied with his grief over the loss of Christopher, Frayling assumed control and gave the order for the men to leave the firing apron. In the Control Room the launching would be controlled by a single switch, and the rockets would be fired simultaneously. Stringent safety precautions must be observed, for if there was danger when a single rocket was launched, it was multiplied many times in this mass take-off. All personnel had entered the concrete shelters and the "all-clear" was flashed to Control. Inside, as many men as possible crowded around the television screen to witness the historic event. Sir Leo Frayling, his face a picture of cool resolution, reached out his hand and pressed the firing switch.

Even a person who was blind and deaf would have known of that stupendous take-off. The ground beneath shuddered as the roaring jets of sixteen mighty rockets thudded into it. The air pulsed and vibrated with the scream of the vicious tongues of flame. A tremendous cloud of black smoke and

steam rose from the firing apron, blotting out the whole area.

Had all the rockets been launched? Had any misfired or failed to fire? Every man asked himself these questions as he strained his eyes to peer through the billowing clouds that covered the concrete. Up above the smoke and turmoil rose the shining cylinders of the projectiles, each trailing the brilliant flame of its jet. Higher and higher rose the cluster of missiles, each carrying its terrible load of explosives ever farther from the earth, each on its mission of destruction to the work of the unknown enemies of man.

Now the steam and smoke had cleared from the firing apron. Wonder of wonders, the concrete area was clear! All sixteen rockets had departed on their journey. It was indeed a notable achievement for international teamwork that a one-hundred-per-cent success had been achieved, and in the Control Room Sir Leo Frayling murmured congratulations to Professor Boronoff, Dr. Rosenberg, and Sir George Benson. Their task was now finished. The projectiles needed no more assistance from the ground base as, guided by its radiation, they would seek out the Levy beacon and explode around it.

There seemed a sense of anticlimax in Control, a relaxation after the terrific tension and stresses of the last few days. Every rocket under their care had been successfully launched. Only P One, almost forgotten by its makers, stood lonely, though ready, on its own small concrete patch. Its sister rocket was now circling endlessly around the moon so many miles away and in it, they all knew, still beat a human heart.

"Benson, I want you a moment."

Sir Leo's voice broke into the Director's melancholy thoughts with a jarring note. With its sound all his anguish and distress for Christopher crystallized into a passionate anger against this cold, inhuman man. Struggling hard to remain calm, Sir George rose and followed the chief scientist into the small room where his young friend had spent his last

few days on earth. Frayling carefully closed the door behind them, and the two men faced each other.

For a few seconds there was silence. Then the chief scientist began to speak in his own unemotional way. "The task is finished so far as we are concerned, Benson. If that youth has done his job properly, the structures will be destroyed. If he failed us at the last moment, then all this effort will have been wasted, and we shall have to start all over again. You will let me know—"

Sir George had felt almost sick with pent-up emotion as he had followed this inhuman creature into the small room. To hear him droning on like this—concerned only with whether or not Chris had succeeded—was more than the Director could bear.

"Frayling," he spluttered, "you're a cold-blooded murderer. Oh, yes, you are," he went on as the other managed a cold smile. "You allowed this lad to be shot into space well knowing he could never return. You've killed him as deliberately as if you had pulled out a gun and shot him."

"Steady, Benson," Frayling said icily. "Wild talk will do you no good. At the outset, there was a very slight chance that the rocket would return. When the radiation increased, the extra shielding eliminated this possibility completely. You obviously had to be prevented from knowing because of your emotional attachment to Godfrey."

"So you lied to everyone but Rosenberg, and let us launch Christopher to his death," Sir George went on, and his voice rose as grief for his young friend and hatred for this man flooded over him. "Now I've got to stand by while the person I think most of in all the world slowly dies an unimaginable death. My God, Frayling, you're the most loathsome thing that ever happened. You—"

Crack! The chief scientist, stung from his cold disdain by Benson's scorching accusations, and with his pale face at last flushed with anger, slapped the Director's face.

That was all that was needed. Sir George's fist shot out and landed straight between the eyes of that hated face. For a second Frayling looked in blank surprise. Then he toppled over backward, striking his head against the wall as he fell. Sir George, staring at the figure lying there quite still, was unaware that the door had burst open and that Billy, Whiskers, and Rosenberg were looking at the scene in amazement.

Without a word Bill Gillanders strode across the room and bent over Frayling.

"Stunned himself against the wall," he announced briefly. "Better get Lambert to have a look at him. What happened, Benny?"

Dazedly Sir George had been rubbing his face where the marks of Frayling's fingers now began to show.

"Eh? What happened? Oh—er—I was just telling him what I thought of him, and he slapped my face. I'm afraid I saw red and let him have it. Is he all right?"

"He'll be okay in a couple of days," Whiskers assured his friend. "Hope you hit him good and hard."

The American scientist, Rosenberg, came forward. "You can guess how I feel about this, Benson. That cold fish there stopped me from saying anything to you. Reckoned he had approval from all the Governments for what he was doing. No hard feelings?"

"That's all right, Ros," Sir George said wearily. All strength seemed to have been drained from him. He looked on helplessly as Squadron Leader Lambert came in to examine the unconscious Frayling. How hopeless everything seemed! What a complete mess! Chris was perhaps still alive up there in orbit round the moon. The Director's heart ached with unendurable anguish as he thought of his young friend's fate. How gladly he would have given his own life if it would have saved Chris.

Followed silently by the others, Sir George walked back into the Control Room. In some mysterious way news of what

had happened had already spread among the scientists and technicians there. For a moment as he entered the room, there was an uncomfortable silence. Then from somewhere a lone voice was raised. "Good old Benny," it said.

As if this were a signal all had been waiting for, the score or so of men on duty left their instruments and crowded around their director and friend, for every one of them had intensely disliked the harsh man who had been over them all. Chris had been a favorite with them, and each one felt a deep burning anger at having been tricked into sending that friendly youth to his doom. Gratefully, Sir George attempted to smile back, but his young friend's fate weighed so heavily upon him that he was unable to utter a word in reply to the many expressions of sympathy and support. To hide his emotion, he turned away and looked silently out through one of the window slits onto the small firing apron where P One stood lonely and deserted.

How long he stood looking at the Pathfinder rocket, Sir George never knew. Or when the first glimmering of an idea came. Suddenly his face flushed deeply and his heart began to pound. An amazing thought had entered his head. Breathing quickly, the Director turned his face back toward the room. His mind was made up; his decision had been taken. Clearing his throat, he called out, "Attention, please. Attention, everyone, please."

The buzz of conversation among the men died down quickly as they turned to look with some surprise at Sir George. That something had happened was certain, for where a few minutes before he had seemed stricken with grief, now his face was lifted up and hope shone in his eyes.

"Attention, everyone, please. In the—er—absence of Sir Leo Frayling, I, as Director of this Establishment, have some orders to give. Now listen carefully please."

There was no need for Benson to make that request, for every man in that room sensed that something tremendous

was about to take place. All eyes were fixed on the face of their leader, and there was absolute silence as they waited for him to speak. Taking a deep breath and swallowing hard, Sir George spoke.

"I have decided to try to rescue Christopher by being launched in P One."

If a ghost had suddenly materialized before their eyes, the effect could not have been more dramatic. There was a stupefied silence at the Director's words. Had—had they heard him correctly?

"I have decided to try to rescue Christopher by being launched in P One." Those were the words he had said, weren't they? He was going to be launched in the other Pathfinder in an attempt to bring young Godfrey back.

There was a sharp intake of breath all over Control as the implication of Sir George's words was realized. It was Billy Gillanders who broke the stunned silence that followed.

"Benny, you're crazy. You couldn't do it," he gasped.

By now Sir George's mind was racing on. Once he'd made the decision a thousand thoughts came pouring into his brain. A hundred decisions were made with lightning speed. His course was clear before him, and he would let no man turn him aside.

"Listen, all of you," he called in a ringing voice. "You all know what Chris means to me. If he dies alone out there in space, his death will lie heavily on me for the rest of my days, and I'm sure that none of you will ever forget it either. But now I've had an idea by which it's just possible he may be saved. And having had that idea, I must carry it out. Otherwise I should always wonder if perhaps it might have succeeded, and that would mean I would have his death on my conscience all my life. That's a prospect I'm not prepared to face, cost what it may."

Led by Dr. Rosenberg, Professor Boronoff, and Billy Gillanders, the men in Control moved forward into a circle

around the Director not to miss a word of what he had to say.

"Briefly," Sir George explained, "I want you to launch me in P One. With your help I shall try to maneuver into the same orbit as P Two. If I can make a sufficiently close approach I shall try to link up with the magnet. Then I shall try to break the orbit and return to earth. The rest will be up to you. Will you all help me?"

"But P One has no shielding," Rosenberg protested.

"If the atomic rockets are now on the correct course, it won't need any," Benson replied quickly. "So P One carries enough fuel for the double journey."

"You have no G-suit and you've had no training," Squadron Leader Lambert called from the back of the crowd.

"True enough, but I'm still going," Sir George insisted doggedly. "Now will all of you help me voluntarily? Or must I make it an order?"

"If you are determined to go, we will help you, my friend," Boronoff the Russian answered, and in a wave of emotion every man agreed.

Almost too moved to speak, the Director thanked them, and for one poignant moment he gazed affectionately at them all. Then, quick as a flash, his mood changed. There was work to be done—urgent work. There was a life to be saved.

Thick and fast flowed the instructions, and every man, caught in the spirit of Benson's sacrifice, did his utmost and more. The fuel tanks of P One were topped up, the valves and controls checked, and the Levy beacon removed to reduce weight. Meanwhile Sir George was in urgent consultation with Lambert, Gillanders, and Wing Commander Greatrex. What was the best possible substitute for a G-suit? Finally it was agreed that he should wear the latest high-altitude flying suit and that, underneath, his body should be almost completely swathed with adhesive bandages to support his vital organs under the terrific acceleration of the rocket. Grimly Sir George waved aside his lack of training. His inflexible

determination would help to counterbalance that. He would be anesthetised just as Chris had been. Lambert made a hasty examination of his heart and declared it okay.

At last the preparations were complete. Scarcely able to walk because of the adhesive bandages, Benson was carried by willing helpers out to the firing apron and carefully raised to the passenger cabin of P One. Billy Gillanders himself secured the fastenings to the contour couch, which had been adjusted as much as possible to accommodate Benson's height. Silently he shook hands with his Director, followed by Whiskers, Rosenberg, and Boronoff. Each man secretly wished his friend good-by, for not one of them in his heart believed that this daring attempt would succeed. Concealing their real feelings from the man in the cabin, they sealed the door and with heavy hearts moved away from the rocket.

21

"FIRE."

It was the hand of Billy Gillanders that pressed the switch. Who should wonder if that hand shook a little, for was not the Deputy Director performing the action that would seal his chief's fate?

Tensely the men in the Control Room and the men in the bunkers outside watched the graceful lines of the Pathfinder. Yes, there was the black smoke, the roar of flame, and the billowing clouds of steam as the motor ignited. With a little jerk the rocket seemed to rise a few inches, then, for an agonizing second, to stand still. Would it go on, or would it fall back onto the apron and explode? Ah, it was rising again. After what seemed a painfully slow start, P One began to gather speed. This time there was not the usual cheer that greeted a successful launching—only a silent prayer in a hundred hearts. Within little more than a minute of firing, the Pathfinder had disappeared from view. Now there was little to do except wait—and wait—and wait.

Slowly the hours passed. No one in Control had any thought of leaving. Food and drink were almost forgotten as the instruments revealed the tense drama out in space. Round the moon circled the third stage of P Two carrying in its cabin the still-living youth. Flashing along at fantastic speed were the atomic rockets, each straining like a bloodhound in full cry to reach its quarry. Climbing ever farther from the earth was Pathfinder One on a desperate rescue attempt. Would the destruction of the cone be accomplished? Was a life to be saved, or two lives lost?

Over half the world telescopes were focused anxiously on the critical area of the moon. Instruments recording the strange alien radiation were studied intently by sweating observers. In another hour or two the strike should be made. Then, within seconds, the earth's fate would be known. Would it be freed from the scourge? Or would the attempt fail miserably, and men and women be condemned to suffer—perhaps forever—from this evil radiation? As the time drew near, many hundreds of scientists in many countries watched breathlessly for the flash of the explosion, for it should be easily visible with even the smallest telescope.

There! Within a split second of the calculated time the missiles struck. The blue-white flash of their combined explosion heralded the most tremendous upheaval ever created by man.

"It's stopped!"

A yell from one of the men crowding around the radiation monitor was the signal for pandemonium. They'd done it! The menacing lunar rays that had been troubling the earth for weeks had now suddenly ceased. The cone had been destroyed. Some men wept with relief; others danced in their joy; for a moment all was forgotten in the wonderful knowledge that mankind had been saved. Gradually order returned, and mankind, perhaps a little self-consciously, went back to its ordinary tasks.

The explosion area of the moon was completely obscured by the masses of material that had been thrown up by this gigantic atomic eruption. Until the debris had settled back on the surface—which, in the absence of any atmosphere, should not take long—it would be impossible to observe visually the result of the operation. But the monitor plainly showed the most important thing—that the radiation had stopped. Within an hour the marvelous news had spread and preparations were put in hand for starting up again the world's atomic-energy stations. Jubilation and thanksgiving were the order of the day, and endless tributes were paid to the men whose skill and knowledge had made this deliverance possible. Above all, those who knew of Christopher Godfrey's part in the affair paid tribute to his heroic courage.

Most of those who knew of the youth's mission did not know of his present plight. They did not know that Chris, unaware both of the complete success of his mission and of the forlorn attempt to effect his rescue, was lying on the contour couch deeply unconscious from the effects of powerful radiation from the nearby cone. Fortunately, at the time the atomic rockets completed their work of destruction, P Two was on the far side of the moon. Hour after hour the rocket swung on its endless journey. How long would the oxygen supply to the cabin last? Was its occupant already beyond need of it? How long would it take P One and its pilot to reach the same orbit? And what would happen then?

Everyone in Control breathlessly awaited the answer to these questions. Who could know how deeply affected the youth had been by the radiation or whether, now that the cone had been destroyed and the radiation eliminated, he would recover from its effects? Wing Commander Greatrex spent long hours straining to catch any sound from the cabin in his earphones. Suddenly a faint sighing moan set Whiskers whooping for joy. Chris was coming around. Soothingly the Wing Commander spoke into the microphone at intervals, and

in about an hour all in Control heard the mumbled reply. Chris had recovered his senses, but was still too weak to answer intelligently.

Now came a serious problem for the men in charge. Should they inform Christopher of the almost hopeless attempt that was being made to bring him back? Or should they lightly anesthetize him until the outcome of the venture was clear?

"He can't stand much more," Lambert pointed out. "His pulse and respiration are very weak even now that he is showing signs of coming around."

"I don't think he should be tortured with such a forlorn hope," Whiskers said. "Why torment the kid by letting him think there's a chance?"

"We'll have to decide pretty soon," Billy Gillanders reminded them. "Whatever we have to say to P One Chris will get on his radio as well."

"Of course, so far as P One is concerned, we don't know what shape Sir George will be in when we're ready to turn him into orbit," Dr. Rosenberg said thoughtfully. "He may have had such a bashing during acceleration that he'll be of little help. We may need Chris's observations to bring the two rockets together."

"Let's anesthetize Chris lightly then—as lightly as possible," Billy suggested. "We can bring him around quickly if his help is needed."

So it was agreed, though Lambert was a little doubtful about the outcome. It shouldn't be for long, he warned, or he could not answer for the consequences.

Now all thought must be concentrated on P One, which, with its still anesthetized pilot, would soon be nearing the turning point. Then the delicate operation of maneuvering it into the same orbit as its sister ship would begin. Squadron Leader Lambert, at a signal from Billy Gillanders, now stepped up the oxygen supply to Pathfinder One. What would be the result? Would the man who was risking his life to save

Christopher be in good enough shape to assist? Without his help the job would be almost impossible. All ears strained to catch the first sound of Sir George's return to consciousness. Gillanders, on whose shoulders all responsibility had fallen, persistently tried to establish communication.

The noise that finally came from the loudspeaker could hardly be called a human sound. Yet there was intelligence behind it. The Director must have been terribly injured during take-off, for his words could scarcely be understood. Only his fierce determination to save Chris made him make the tremendous effort required to give Control the essential guidance to put P One on the correct flight path. Yet even with it the orbit might be anything up to a couple of miles on either side of P One's path. Only visual direction could close that gap.

In Control the close atmosphere and the tension were causing everyone to perspire profusely. In acute discomfort these men with haggard, unshaven faces strove to play their part in the most fantastic rescue operation the world had ever seen. The room was silent, with every man bent in utter concentration on his own particular job. What an event it would be if the two rockets and their passengers could be brought back safely! It would set the seal on the whole incredible adventure. Yet, though some of the scientists and technicians in that room were allowing themselves to dream of success, even the most optimistic realized the stupendous odds against it. It would take the devotion and skill of all of them, as well as the utmost courage of Sir George Benson, to make the venture remotely possible.

The man crouched uncomfortably in the small cabin of P One was in great pain. The compartment was too small for him, and because of his inadequate protection against the terrific strain of the blast-off, he had suffered serious internal injuries. Grimly he struggled to fight off nausea and insensibility as he peered through the film of blood that filled his

eyes. He must locate Christopher's rocket; he couldn't fail him now. Only when he had secured the cabin of P Two to his own rocket could he allow himself to sink into blissful oblivion. Then the men on the ground could do the rest. Painfully Benson stared at the small glass screen, seeking the flying speck that would indicate his objective. Perhaps that speck he saw was a blood bubble in his eye. Agonizingly he tried to blink it away, but it was still there. Then, with a leap of his tortured heart, Benson knew that he had found his quarry.

Painful sounds from the injured man, frequently interrupted with bouts of nausea and hemorrhage, directed Control in closing the gap. Closer loomed P Two until it was a bare half-mile ahead of its pursuer. Benson raised his agonized face toward the ground-glass screen and watched Christopher's rocket. Silently the Pathfinders coasted on—two tiny lumps of matter gliding smoothly over the fantastic landscape below. Now Control came through to say it could bring the rockets no nearer. Even the most delicate maneuver with the impulses from earth might cause P One to overshoot and lose its companion. Then it could be brought back again only at a high cost in precious fuel. From now on the men in Control would have to leave it up to Sir George and the tiny auxiliary rockets under his control.

Grimly the scientist reached toward one of the switches, ignoring the searing pain that cut through his chest. By a tremendous effort of will power he forced his fingers to press the switch. For only a two-second burst he held it down. Then he looked at the screen again. The gap between the rockets was closing. When almost level with P Two, Benson knew he would have to fire another of the auxiliary rockets placed in the nose in order to slow up P One and prevent it from leaving P Two behind. Again he raised his hand to the required switch and placed his finger on it.

A terrific shock struck the Director, obliterating for a mo-

ment even the awful pain he felt. *The switch was broken.* It flapped loosely under his groping fingers, and when he pressed it nothing happened. Now panic began to chill Sir George's heart. Every second the two rockets were drawing nearer. Soon P One and P Two would be level. Would he have to watch helplessly while he left Chris behind? To fail after coming so near to saving his young friend? No, it couldn't be! Yet all he could do now was pray, and this the agonized scientist did.

The magnet! Somehow, as if someone had spoken, Sir George heard the words ringing in his brain. That was it—the magnet! He would switch on the powerful electromagnet by which the Levy beacon would have been held, and by which he hoped to secure P Two. There was a chance—just a tiny chance—that the attraction might be strong enough to draw P Two along after the speeding P One. There! He pressed the required switch. Now all he could do was wait—and pray—and watch.

Blinking his smarting eyes, the Director looked at the screen. Yes, there was P Two, now almost level and only a hundred yards or so at one side. Would it drop behind, or would the invisible force of the magnet catch it in its grip? Almost without breathing, Benson watched the small glass screen. For what seemed an age the two rockets sped on neck and neck. Ah, P Two was falling behind, and all was lost. No, it wasn't! With a tremendous leap of his heart Sir George saw that Chris's rocket was still in view and that the distance between them was steadily getting smaller. He'd done it! P Two was trailing alongside its sister ship and getting closer every second. Thankfully he closed his eyes, and as he opened them he felt the slight impact of the two rockets coming together. The magnet would see that they stopped and stayed that way. With his senses reeling, Benson forced himself to inform Control that all was ready for the return. As he felt the shudder of his motor starting up, a deep and merciful blackness engulfed him.

Wonderingly Christopher opened his eyes. Where was he? What was he doing lying in that small compartment? What were all those dials and things above his head?

Memory came back to the youth like a flash of blinding light. He'd been launched into space never to return. For a moment he struggled with this thought; somehow, it seemed quite unimportant. He supposed he'd been circling round the moon until at last he had died, and this strange new consciousness was a bursting through that mystical barrier. Yes, he must be dead. That was the only possible explanation. Yet why did his mouth and throat hurt so much? Why could he not move his painfully heavy arms and legs? Surely when a person is dead he is free from all physical restrictions! Ought he not to be light as air, free to roam the universe at the very thought? Could it—could it be that—that he was not dead after all?

A sense of terrible disappointment filled the youth. So he hadn't escaped his physical bonds—yet. It seemed, alas, that he was still alive, and still had to face the final ordeal. Why hadn't they given him enough gas to put him to sleep forever? It was surely inhuman of Control to deny him this last favor. What reason could there be? Spurred on by the pain he felt, Chris's mind went back over the events of the past. Had he succeeded in putting the beacon down in the correct position? Had the atomic rockets been fired yet and had they destroyed the lunar cone? Where, he wondered, was Uncle George and that cold-blooded Frayling? Perhaps if he could manage to speak, someone would tell him—if the radio still worked.

Desperately Christopher tried to form the sounds, but his tongue and lips refused to obey the commands of his weary brain. Only a strangled cry came from his gaping mouth—a cry that, had he known it, set twoscore men wild with excitement in that concrete room on the earth.

They'd done it. P One had re-entered the earth's atmosphere, and oxygen was being fed to the youth once more. The weird sound they had just heard told the listeners that Chris-

topher had again been brought back to consciousness. Soon both the cabins would be released from their rockets and would gently descend beneath the canopy of their automatic parachutes. Where would the landing be? All the men knew was that it would be within fifty miles of the take-off point, so carefully had they shepherded back the returning projectiles. Now, like a pack of schoolboys released from the stern control of a strict headmaster, many of the men rushed outside to see if they could spot the two white specks in the heavens above.

"This is most strange," Chris thought, as he vainly tried to make some intelligible sounds. No longer did he feel that he was floating above the contour couch. Instead, he had a very definite sense of weight as his body pressed into the padding. So he had landed on the moon! He knew that only the lunar gravitation or a constant acceleration of his cabin could cause the sensation he now felt. Since all the rocket's fuel had been exhausted long ago, it was easy to deduce what had happened. Yet why had he not been smashed to pieces when his orbit had collapsed, and he had crashed on the lunar surface?

As if in answer to his perplexities, the loudspeaker crackled. The radio still worked then? Very faintly came the sound of someone speaking. The youth held his breath and tried to still his thumping heart. He must catch the words that were said. But it was no use. Probably, he thought, the battery was almost exhausted and the radio nearly useless. Then, just for a second, by some freak, the sounds became louder and intelligible.

"Christopher. Christopher," he heard his name repeated, though who was speaking he couldn't tell. "Chris, you're saved! You're back in earth's atmosphere."

For a moment the words seemed without any particular significance. Saved? How could he be saved when he was condemned to circle the moon forever in a spent rocket? Yet,

what about this inexplicable pull of gravity he could feel? Was he really awake, or was this a nightmare of his tortured brain?

"Can you hear, Chris?" the voice coming over the loudspeaker asked. "You've been collected and brought back to the earth by P One. You'll be safe soon, Chris. You're coming down now on a parachute. You—"

Then the radio went dead. Strain as he would, the youth could not catch another sound. Now he was sure he wasn't dreaming. He wouldn't feel so uncomfortable in a dream. So it must be true. He'd been snatched from a lonely death by a miracle, a miracle in the shape of Pathfinder One, piloted by—Uncle George? Of course! Uncle George!

Who else had the skill, the courage—and, above all, the incentive for undertaking such a forlorn and crazy venture? The youth's heart felt like bursting as his mind wrestled with the thoughts that jostled one another in his head. His life was saved? He couldn't believe it. But it was true. Uncle George had saved him, and soon he would see all his friends again—Whiskers, Betty, the Squadron Leader, Mrs. Gillanders and Billy, the men in Control, Aunt Mary—and, above all, Uncle George. What would he say when they met? How could he express even a fraction of what he felt?

The first indication of where the cabins might land was given when the empty shells of the two rockets, still locked together, buried themselves in the desert sand about forty-two miles northwest of Woomera. On their radar screens, tracking stations had followed the headlong flight of the rockets, and now their antennae were picking up reflections from the two parachutes. The drift of the two chutes, still invisible from the ground, seemed to be southward, so they should land much nearer to the Research Establishment than the rockets had landed. Already two helicopters were in the air, ready to follow the gently falling cabins to their landing point. At the Research Establishment and even in the little

town, the excitement was almost unbearable. All other activities had stopped, and the only thought in everyone's mind was: would the two cabins land safely, and what would be the condition of their occupants?

"We've spotted the 'chutes"! At last the report for which everyone was waiting came through. It came from a tracking station about twenty-five miles from Control, where one of the men had picked up the two white dots with a four-inch telescope. From then on the parachutes were kept under constant visual observation as they sank steadily toward the ground. In addition to the two helicopters hovering expectantly a few miles away, a third now took off from Woomera airfield with Greatrex, Gillanders, and Lambert aboard.

Yard by yard the fall of the two large parachutes was watched, and now a score of binoculars were combing the sky for a glimpse of them. Their calm, steady descent was in sharp contrast to the excitement on the ground where, to a man, the staff of the Establishment was roused as never before. Every available jeep was requisitioned and crammed with weary, excited men setting off at breakneck speed to the area toward which the 'chutes seemed to be drifting. The two white umbrellas, now clearly visible with field glasses, were still fairly close together, with one slightly below the other.

Over the rough scrub, broken by outcrops of rock, the convoy of jeeps sped recklessly. Already the three helicopters were circling around below the steadily growing white circles, each using its radio to challenge the others to reach the cabins first. Now the parachutes, with the small black cabins swinging below them, could be seen clearly, and the drivers of the jeeps forced every ounce of speed out of the little cars. Yet the ground parties were still more than a mile away when the graceful shapes floating down from the heavens touched lightly on good old solid earth.

The swinging motion of the cabin had stopped, and Chris-

topher knew that he had landed. Joy, gratitude, amazement, relief, all mingled in his breast, and humble words of gratitude to his Maker rose to the youth's lips. Thanks to Uncle George would come later—as if thanks could ever be enough! With sudden fear Chris realized that the scientist had made the flight without a G-suit and without any previous conditioning. Oh, dear God, let Uncle George be all right!

How long would it be before the cabin was found? Where had he landed? Was it day or night? A thousand questions flooded into the youth's brain as he lay motionless on the couch. Trial had shown Christopher that he was too weak to move and must be content to await his release by others. He hoped Uncle George would have landed nearby, for he could scarcely contain his growing anxiety for the welfare of the man who had saved him.

There was a noise on the outside of the cabin. He'd been found, and someone was tapping on the casing. How long had he been in that tiny compartment? Chris wondered. A week? A month? With his long periods of unconsciousness, time seemed to have gone crazy, but from his weak and exhausted condition, Chris was convinced that he'd been shut up for more than a week.

Again the sound from outside. At least someone was near him—only a couple of feet away, perhaps. Pity he couldn't signal back. Now the noise became more persistent. Why did it take them so long to open the door? Chris waited in a fever of impatience—half eagerly, half fearfully. Whose would be the first face he would see? Almost choking with emotion, he listened to the efforts to free him. Then, suddenly, there was a blinding gleam of light. The door was open!

Not until then did Chris realize how dim the interior of his prison had been, for the illumination had faded gradually as the batteries became exhausted. Instinctively he closed his eyes to protect them from the glare, so at first he did not see the anxious faces of his rescuers peering inside. He filled his

lungs with great draughts of pure fresh air, the first he had breathed for days. He wanted to weep like a baby.

"Chris! Chris! Are you all right?"

At the sound of his name the youth opened his eyes. For a moment he blinked without seeing anything. Gradually he became accustomed to the light, and there, gazing down at him, full of concern, was the face of dear old Whiskers! It was incredible!

With an effort Chris tried to smile and to speak, but he only succeeded in distorting his cracked lips and uttering a sound like a groan.

"All right, young feller-me-lad," the Wing Commander said. "Take it easy. We're coming in to get you."

For some minutes Whiskers and a helper struggled in the tiny cramped compartment. They were releasing the whole couch, so that other men outside could draw it toward them through the doorway. Gently, tenderly, willing hands drew the youth into the open air, and then, still on the couch, carried him quickly into a canvas tent that had been hastily set up nearby. Here, Squadron Leader Lambert and his assistants were waiting. While the Squadron Leader moistened Chris's lips with a sweet pleasant liquid, the others, with infinite care, began the process of releasing him from his G-suit. He was not able to assist them much, but the liquid made his mouth and tongue feel better, enough better to be able to swallow a small drink that Lambert held to his lips.

"Thanks," Chris managed to croak. "That's—better."

"Take it easy, now, Christopher," Lambert ordered. "As soon as we've got you out of this confounded suit, we're going to fly you back to Woomera."

"Where—where am I?" Chris whispered.

"You've landed about twenty miles northwest of the Establishment," the Squadron Leader grinned. "Very thoughtful of you, old chap."

Chris attempted a smile. Then a thought struck him. "How's Uncle George?" he asked with difficulty.

"He's all right," they assured him. "He'll be along in a minute."

"Thank God for that!" Chris thought.

From an identical cabin less than half a mile away Billy Gillanders headed another party that was gently removing the pitifully injured Sir George. He was still alive, even semi-conscious, but his injuries were so serious that Billy knew it would be a long time before he recovered. The men put Sir George onto a stretcher and drove slowly and carefully to where the hospital tent had been set up.

Lambert and his assistant had just finished examining Chris. All things considered, Lambert said, he wasn't in such bad shape. A couple of weeks' careful treatment and he should be as fit as ever. Now the Squadron Leader turned his attention to the stretcher that was being carried in. Chris struggled to raise himself up a bit to see what was happening, but one of the men stretched a canvas screen across the tent. All thought of his own discomfort vanished in Chris's anguish for his hero as he heard the low moans of the injured man on the other side of the screen.

"We must get him to the hospital as quickly as possible," Chris heard the Squadron Leader say. Then, "Hello, he's coming around!"

Sir George Benson had sunk back into unconsciousness on the short trip to the tent, but now his eyelids fluttered and he muttered something unintelligible. Wing Commander Greatrex and Billy Gillanders had squeezed into the tent and were standing anxiously by the stretcher. Their unspoken question to the Squadron Leader could not be answered—yet.

Whiskers stepped into Chris's compartment and knelt down by his young friend. The eyes of the gay and boisterous officer were swimming with tears, though he smiled bravely through

them at Christopher. Someone was now taking down the screen, for Sir George had struggled back to consciousness and was asking for Chris. With beating heart Chris raised himself a little, and a couple of men lifted his cot to put it alongside the other.

For one unforgettable moment the youth gazed into the pain-wracked eyes of his Uncle George. Then Sir George—somehow—managed a faint smile. Chris, unable to speak, reached out and gently took the Director's listless hand.

"Thanks," was all he managed to croak—but it was enough.

His patients, Lambert was gently insisting, should be put into the helicopters at once. But Benson, mouth working painfully, delayed them a second as he gasped out a question. "Domes?"

It was Billy Gillanders who answered, and he spoke both to the Director and to the youth who had done so much.

"Smashed," he said thankfully. "And the radiation has stopped."

Chris felt a great surge of relief. He knew, too, that the news could do nothing but good for Uncle George, for the injured man's face had momentarily relaxed with joy at the information. It was with this brave attempt at a smile that Benson looked back at Christopher as they carried him carefully outside.

Ten days later Wing Commander Greatrex deposited his bulk on Chris's hospital bed. His ginger mustache bristled more fiercely than it had done for a long time.

"He'll do," he burst out. "Lambert says he'll pull through."

There was no need for Chris to ask what he meant. Ever since the landing, only one thought had seemed to animate the whole community—the hope that the Director, after this incredible rescue, would recover from his injuries.

As Chris lay day after day and night after night slowly regaining strength, he thought of his hero. If—if anything hap-

pened to Uncle George, well—he'd not want to get better himself. Now this news brought by good old Whiskers seemed an answer to his prayers. Uncle George would get better! He would not have cost Sir George's life. To his great chagrin, Christopher began to weep.

In another ten days, when Chris was just strong enough to walk, he was allowed to visit Sir George. The Director, almost unrecognizable under a mass of bandages, reached out a well-swathed arm and took Chris's hand.

"Well, Chris," he said in something like his own strong voice, "we've done it agin!"

The young man nodded, too full of happiness to speak. Uncle George was recovering, and the evil radiation had been stopped at least for now. Everything was looking up! Even Frayling didn't seem so impossible. He had paid Chris a call before flying to London and had been as nearly human as Chris had ever seen him. He had been, Whiskers said, completely bowled over by the rescue and had paid unstinting tribute to Sir George. Still, Chris was glad Frayling was not around, and he was glad beyond thinking that now Uncle George and he could look ahead to days of companionship and of work together.

For even though the domes of Pico had been destroyed, Chris knew there would be plenty of thoughtful study and work to ward off another menace from the moon.

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